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Drawn for this book by A. Pearse.]

A CHAMOIS BUCK.

[Frontispiece

THE GAME ANIMALS OF NEW ZEALAND

AN ACCOUNT OF THEIR INTRODUCTION,
ACCLIMATIZATION, AND DEVELOPMENT

BY T. E. DONNE, C.M.G.

AUTHOR OF "RED DEER STALKING IN NEW ZEALAND"

"These are the beasts which ye shall eat: the ox, the sheep,
and the goat, the hart, and the roebuck, and the fallow deer, and
the wild goat, and the pygary, and the wild ox, and the chamois."—

DEUTERONOMY xiv. 4 and 5.

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PREFACE

THE Game Animals of New Zealand consist wholly of species introduced from the continental areas of the Old and New Worlds. They were acclimatized in an exotic environment with marked climatic variation, and an entire change of food.

With the instructive and interesting work of transplanting and acclimatizing animals, birds, and fishes, I was for half a century officially and privately associated, and I have been directly concerned with the introduction into New Zealand of chamois, moose, wapiti, red, sambar, axis, Virginia, mule and sika deer, tahr and bharal.

The successful acclimatization of such a number of diverse species, from widely separated countries, with pronouncedly divergent habits, in islands far remote from their native habitat, is of profound interest to sportsmen as well as naturalists. This great work, so well and unostentatiously carried out by the Government and acclimatization societies of New Zealand and private persons, has hitherto been recorded only in a fragmentary manner in official correspondence, local reports, newspaper paragraphs, and books not generally accessible to the public, also in pamphlets and papers which are inevitably fugitive.

Owing to the official position that I occupied, I have been afforded exceptional opportunities for acquiring intimate information respecting the operations of importing and acclimatizing foreign fauna, and for a long time I have realized the advisableness of having the main features of this work recorded in book form for the information of present-day naturalists and sportsmen and future generations of New Zealanders.

In this undertaking I have received much encouragement from Sir Theodore Cook, Editor-in-Chief of *The Field*; Lieutenant-Commander John Guille Millais, R.N.V.R., author of *British Deer and their Horns* and many other books on Natural History and Sport; Mr. Allan Gordon Cameron, author of *The Wild Red Deer of Scotland*; Dr. W. T. Hornaday, Sc.D., the well-known writer and Naturalist of New York, author of *Our Vanishing Wild Life* and Director of the New York Zoological Park; and Rear-Admiral Ludwig Ritter von Höhnelt of Vienna, author of the *Discovery of Lakes Rudolf and Stephanie in Equatorial Africa*. By the Under Secretary of State for Great Britain and the Prime Minister of New Zealand, I have been accorded the privilege of examining the State Records of Great Britain and New Zealand, respectively, for the purpose of obtaining information in connection with the importation of animals into New Zealand. To each of them I would here express my cordial acknowledgment and sincere thanks.

Also for the opportunity of reproducing the very interesting series of photographs which show the processes of shedding and re-growth of antlers and

PREFACE

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pelages of a wapiti stag, I am much indebted to the courtesy of Dr. W. T. Hornaday, Director of the New York Zoological Gardens. The photographs were taken by Mr. Elwin R. Sanborn, photographer to the New York Zoological Society.

T. E. DONNE.

INTRODUCTION

NEW ZEALAND is geologically one of the oldest portions of land, picturesque in the highest degree. For hundreds of thousands of years it remained unknown to man. When the Maori reached those unnamed islands from "Hawaiki" he found a land wherein Nature had exercised her best efforts in producing beauty, grandeur, and weirdness. There are lovely glades, majestic mountains, awesome volcanoes, and weird thermal activity, extensive forests, lakes of large size and a remarkable variety of streams and rivers. There are also the strange contrasts of boiling water rushing out of "Mother Earth" and racing pell-mell, side by side with the ice-cold element from snow-clad mountain tops, until they join and make common cause in river or lake. There are huge forests which are ever-green, ever-shaded, and almost impenetrable on account of their wealth and variety of undergrowth. In them a giant tree springs from a tiny seed conveyed by the wind to the decayed matter harboured in the forks of the large pines. Here it sprouts into a parasitical tendril, slowly lengthening until its foremost fragile shoots reach the ground and there take root. This vine now becomes inverted and grows upwards instead of downwards; putting out arms it gently embraces its self-adopted mother for support. Each day it grows stronger and sturdier,

gripping the parent tree with more vigour and tenacity until, in course of time, its insidious Iscariot-like embrace is disclosed. The tree which sustained it in infancy and protected it in youth is ruthlessly strangled in the resistless death-grip of the *rata*.

This tree produces a bright red flower, and the Maori—with that touch of poesy for which he is noted—says that this brilliant colouring is the exudation of the life-blood which the *rata* sucked from its foster-parent tree.

In certain forests there is a large caterpillar which, falling from the pine trees, burrows into the earth, then dies and becomes a vegetable, from which sprouts a small single-stemmed plant.

Not content with revelling in physical prodigality and capricious arboreal antics, Nature proceeded to play fantastic tricks with bird life. In her wantonness she made the huge Moa (*Dinornis giganteus*), which sometimes attained the great height of 12 feet.

Another bird of the same family as the Moa is the Kiwi (*Apteryx*). It has neither wings nor tail, and the female, which is smaller than an ordinary domestic hen, lays an egg $6\frac{1}{2}$ inches in length with a circumference of 10 inches. There are other birds, too, with immature wings that are of no use for flight, one of which, the “flightless duck,” has to content itself with swimming, flapping and diving, as it cannot fly; while the Whio, or blue mountain-duck, has the peculiar advantage of being able to whistle. The Huia birds were hatched in pairs, each dependent upon the other, the male with a short, sharp, strong beak, the female with one that is long, slender, and incurved. They worked on the co-operative principle—he stripping the strong bark off trees and exposing the holes made by



Photograph reproduced by courtesy of Rowland Ward, Ltd., Piccadilly.]

THE MOA AND KIWI.

A striking conception of a Moa modelled by Rowland Ward.

[To face p. x.]

the deliciously flavoured huhu grub, while she inserted her delicately formed bill, extracted a fat succulent specimen, ate it, repeated the operation, gave unto her mate and he did eat. After frolicking with freak trees and birds Nature appears to have had no energy or desire to produce animals, if one excepts such small representatives as the tuatara lizard (*Sphenodon punctatus*), a relic of antediluvianism, and two varieties of bats.

The climate of New Zealand is temperate and equable, and its soil is rich and fertile. Grasses are plentiful, and there are many nutritious plants, bushes and trees on which ruminating animals may thrive and fatten. There was, for myriads of years, a paradise for animals; but no animal, not even man. Where the first peoples came from no one now knows. They were probably castaway natives of some of the tropical Pacific islands, for, when the Maori reached New Zealand—his “Ao-te-roa”—about five hundred years ago, he found the Mori-ori in possession: he thereupon diverted himself by hunting the Mori-ori, and almost exterminated him by a process of digestive assimilation.

When early European voyagers reached New Zealand they found a land well adapted to the requirements of animals, but no mammal other than man.

After the Maori had established himself and increased so wonderfully during his four hundred years or more of uninterrupted occupation, there came the white man and, as is generally known, New Zealand was peopled by excellent stock from the “Old Land,” who evidently transplanted their sporting characteristics as well as transporting their goods and chattels to the “New Land,” as, in 1847—seven years after

the real commencement of the settlement of the Colony—a settler wrote to Colonel William Wakefield, who represented the New Zealand Company, pointing out the suitability of New Zealand for deer. Following the receipt of this letter, Wakefield in turn wrote to the Directors of his company in London as follows :

“It would be a most advantageous and attractive thing if some ‘Scotch’ proprietors would send some red deer to be turned out here. In the course of a few years there is no doubt they would increase largely. The sport of hunting them would be highly attractive and would conduce to the breed of horses, and afford a manly amusement to the young colonists, fitting them for the more serious life of stock-keeping and wool-growing.”

The seed of desire then sown was very shortly to fructify, for in the year 1851 two red deer—a stag and hind—reached New Zealand from England.

Ten years later Charles Hursthouse, a New Zealand settler, published his book, *New Zealand, the Britain of the South*, in which he made a strong appeal for the importation of deer and game birds in the following words :

“New Zealand should swarm with game. There is no destructive animal or reptile ; the soil and climate are perfection ; water flows everywhere in profusion, and there is the finest cover and perpetual profusion of the finest food for every game creature from Jack-snipe up to Elephant.

“Thoroughly adapted for all our common birds and for small game New Zealand, if possible, is even better adapted for our large game. Red, roe and fallow deer, once introduced into feeding grounds and noble coverts like Mount Egmont’s ranges and the

‘Black Forest’ territory (of Nelson) would never be exterminated—not even if hunted war-to-the-knife by the Red Indians led by Scrope, St. John or Cumming.

“No man can better deserve, no man can better afford a day’s pastime than a New Zealand colonist. His bow, even, must sometimes be unbent, and surely it is better far that he should nerve himself in rural sports, ‘chasing the red deer and following the roe,’ than that he should relax himself in city dissipations and the laps of ballet-girls.

“Some day, too, New Zealand may have to ‘set her squadrons in the tented field’; she may need good soldiers; good soldiers must be good shots, good shots are made by good shooting.

“The fallow deer could unquestionably be introduced; while from information gained this season in Aberdeenshire from Lord Panmure’s keepers I think that, with care and management, young half-tamed, hand-raised red deer would make the voyage.”

Hursthuse envisaged well. Red and fallow deer were early introduced into the Nelson forests, and, nine years later, “young half-tamed, hand-raised red deer” were obtained from Lord Panmure’s forest in Forfarshire (not Aberdeenshire) and successfully conveyed to New Zealand as he had predicted.

To-day New Zealand probably carries more red deer than any other country, and therefore there is no need for her sons to confine their relaxations to “city dissipations and the laps of ballet-girls.”

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CHAPTER I

THE INTRODUCTION OF RED DEER TO NELSON

THE RED DEER (*Cervus elaphus*)

THE first red deer to reach New Zealand were sent from England to Nelson late in 1850. They comprised a stag and hind which were presented by the late Lord Petre, of Thorndon Hall, Essex, at the instance of the late Hon. H. W. Petre, who was then a settler in Nelson. In 1851 they were landed and released in the Maitai Valley near the township of Nelson. Subsequently the hind was unfortunately shot. This information coming to the knowledge of H.R.H. The Prince Consort, he, in 1853, through Lord John Russell, the Royal Ranger, presented from the Royal Park at Richmond, a stag and hind. These were shipped on the *Eagle*, their transport to New Zealand being supervised by Mr. Felix Wakefield, the fifth son of Edward Wakefield, of Burnham Hall, Essex, and father of Mr. Edward Wakefield, formerly the well-known editor and parliamentarian of Wellington. Again the fates were unkind, as four days prior to the ship's arrival at Nelson, the hind died. The *Eagle*, 284 tons, reached Nelson on the 30th March, 1854, after a voyage of one hundred and fifteen days from Plymouth.

This stag was kept confined in the racing stables of

Edward Stafford, Nelson, until the 6th September, 1854, when he was released near the mouth of the Waimea River.

Here were the people of Nelson in proud possession of two stags, but regretfully of no hinds.

The stag which was first introduced remained alive for ten years, and was often seen in the vicinity of Fringe Hill.

Lord Petre came to the rescue by presenting a stag and two hinds to Nelson. They were shipped on the *Donna Anita*, which sailed from London during the last week of September, 1860, the shipping arrangements being made by the then Government Agent in London, the late John Morrison. The *Donna Anita* reached Nelson in February, 1861, after a voyage of four and a half months. The three deer were alive and well. In 1863, B. A. Heyward, M.A., of Cambridge, wrote :

“Lord Petre sent out in February, 1860 [September, 1860 ?] three red deer, a stag and two hinds, as a present to the province (Nelson), and they were turned loose on these hills (adjacent to Nelson town). As they are protected by law, passed especially for their benefit, they will probably be allowed to increase free from wanton attacks by mischievous persons.”

The official records of the introduction of deer, which were held in Nelson, were destroyed by fire, and, by an unhappy coincidence, the park records kept by Lord Petre were also burnt when a portion of Thorndon Hall was destroyed by fire in 1870.

Mr. Christopher J. H. Tower, of Wealdside, Brentwood, Essex, has very kindly written to inform me that



THE LATE HON. HENRY WILLIAM PETRE, WHO
WENT TO NEW ZEALAND, 1837.



THE LATE WILLIAM BARNARD LORD PETRE,
OF THORNDON HALL, ESSEX.

[To face p. 2.]

“ of Thorndon Hall one wing only was left intact. He states that Lord Petre was so hipped over this untoward happening that he had his herd of red deer well-nigh exterminated and that the work of their destruction was begun by the Hon. Fred Petre and Mr. Tower himself. William Barnard Lord Petre reinstated the herd, but it has now been completely wiped out and the property is used for golf.”

To send red deer from England to New Zealand in the 'fifties and 'sixties required serious effort. There were no steamers, the sailing ships were small and slow ; their deck accommodation was not any too spacious for passengers, and there was little space to spare for game animals. The deer also required a comparatively large quantity of food for their sustenance during the five months' voyage ; while drinking-water was not too plentiful nor over-fresh. The seas of the Southern Ocean are rough and the decks were frequently under water. The conditions were, therefore, entirely against the successful transportation of animals, and it required a good deal of resolution to make the attempt.

In the earlier days of their liberation the red deer of Nelson did not multiply as rapidly as those herds of the Wairarapa and Otago—notwithstanding the fact that the country is high, food plentiful, shelter good, and the climate very mild. One explanation advanced for this is that “ the deer hung about too close to the town and they were ‘ peppered ’ right and left by all and sundry.” It is stated that one resident of Nelson shot such a large number of stags in the earlier days of their acclimatization that their antlers were displayed throughout his home from the front door to the back-yard fence, and even adorned his

fowl-house. It is asserted that some of the residents shot stags of any age or size, and that hinds did not always escape the bullet. One form of destruction was to put dogs into gullies and as the deer endeavoured to escape therefrom they were shot down by men who were concealed on the ridges. This shooting had one good effect, as it caused some of the deer to seek less noisy and disturbed quarters further afield, so that little colonies were formed which extended from time to time until the Nelson and Marlborough provinces were fairly well stocked by natural expansion.

The stags of Nelson have always lacked quality of antlers. They are narrow, thin, and often stunted. The bay tines are, as a rule, absent, and there is a marked tendency to bifurcation of tines. With comparatively few exceptions the Nelson antlers are inferior to the *average* antlers obtained in the Wairarapa and Otago herds.

The occasional absence of bay tines, or their occurrence only in undeveloped form, is a well-known feature of Scottish deer. Thorolds deer (*Cervus albirostris*), the "Yellow Rump" (*Cervus xanthopygus*), and the deer of Northern Africa (*C. elaphus barbarus*) are varieties which either fail to produce bay tines, or grow rudimentary offers only. In the sambar, axis, and sika, the bay tines are not produced. This peculiarity of the Nelson red deer is, perhaps, suggestive of partial reversion to the primitive type of antler. It is certainly not due to any lack of nutritive food. Of late years some ugly, malformed, and underdeveloped antlers have been brought in from the Nelson forests by stalkers, showing that necessity exists for a thorough cleaning up of the herds.

In 1907-8 sixteen representative heads of red deer

stags from Nelson were included in a collection which was exhibited in the Court of the Government Tourist Department at the International Exhibition at Christchurch. Of these not more than half a dozen could be regarded as good heads: the others were small, light, narrow, and not comparable with any of those from Wairarapa or Otago.

Mr. F. J. Coverdale, who was for many years agent for the Petre family, informs me that the deer of Thorndon Park, whence the Nelson deer sprang, "were noted as splendid runners and invariably gave the hunters and hounds a good run."

In an old book I find it chronicled that "during the reign of Charles II., there was a chase of a stag from Windsor to Lord Petre's place in Essex, no less a distance than 70 miles." *Verb. sap.*

I am not aware that the frequent chasing of stags interferes with their antler development, but even so, this would have no marked effect on the antler development of their progeny. The cause of inferiority in antler production of the Nelson deer must, I think, be looked for in their breeding. They are evidently not predisposed to the production of large antlers.

The stag's head figured over the title of "The Petre head" was found on a skeleton some time about 1874, by a boy named Harry F. Hodgson, on Barren Hill, near the Dun Mountains, Nelson, when he was hunting wild goats. Mr. F. N. Jones, of Nelson, secured the antlers from Hodgson and gave them to his brother-in-law, Mr. William Brown, of Wellington, who kindly had the photograph of them taken especially for this book. The head is, of course, mounted in a recently obtained skin. It is generally believed in Nelson that this was the stag received from Thorndon

Hall, Essex, in 1851. On reference to the illustration it will be observed that the antlers are narrow, thin, unduly bifurcated and wanting in style and size.

In 1900, I was in communication with the late W. A. Baillie Grohman, and wrote to him that I had seen antlers from Nelson with each of their twelve tines bifurcated. He, in reply, attributed this unusual feature to an abundance of feed. I am, however, inclined to the belief that it was due more to hereditary predisposition than feeding. The Wairarapa deer revel in a plenitude of rich food and other conditions somewhat similar to the Nelson deer, and here we get great proliferation of tines and exuberance of beams, well-developed bay and other tines, but little or no bifurcation. In the Nelson antlers there is neither prodigality of beam nor tines.

The largest and heaviest head obtained in the Nelson district was secured from a stag killed near Rainbow Mountain, about 40 miles south of Tophouse, by Commander Walter Steward, R.N. It will be observed from its picture that with otherwise exuberant growth these antlers exhibit one of the pronounced weaknesses of the Nelson heads in the undeveloped form of bay tines. Commander Steward has written to me that of the many heads he obtained in the Nelson forests, two only have both bay tines. He also informs me that in 1918 he secured a 16-pointer in the vicinity of the Rainbow Mountain, with heavy tops, the brow tines of which measured $11\frac{1}{4}$ and the trays 16 inches, but the bays were 8 inches only.

The 18-pointer killed by Commander Steward may have been produced by the enterprise of stag from the Rakaia herd having visited the hinds on the southern portion of the Nelson forests, or he might have been



"THE PETRE HEAD:" BELIEVED TO BE THE ANTLERS OF THE
FIRST STAG IMPORTED INTO NEW ZEALAND.

Length 37. Spread 30. Span $23\frac{1}{2}$. Coronet $8\frac{1}{4}$. Beam 6.

[To face p. 6.]

one of the three young stags which were sent from Warnham Court to the Nelson Acclimatization Society on the 30th September, 1910, by the *Ruapehu*, and released in the Nelson district. In the latter case, the stag would have been eight years old when shot—enough years with the Warnham predisposition and luxuriant food to produce such splendid antlers. The very unusual development of this head, after nearly sixty years of consistently mediocre production of antlers, naturally prompts one to look for causes outside of the original herds.

If the Nelson and Rakaia herds have not already intermixed in a small way, it is quite likely that they will do so before long. There are no physical barriers to prevent their union. Rakaia will get the worse of such an exchange of blood.

It is recorded that a stag from Nelson was transferred to Rakaia and liberated with the herd there about 1902. Newspaper reports indicate that this stag was shot by a stalker, and the opportunity was taken to rejoice that he was with the Rakaia deer long enough to set his mark on it. One wonders what fleeting aberration of common sense prompted the introduction of a Nelson stag into the splendid antler-producing herd of Rakaia. If the Rakaia herds required stimulation—which seems doubtful—improvement in style could have been secured by introducing a good draft of deer from Otago; additional length and weight are not necessary.

The Nelson herd might be improved by a thorough killing off of stags with under-developed or wrong antlers, weedy hinds and weak calves and replenishing the forests with a fairly large draft of new stock from Wairarapa, Rakaia, Otago, and Warnham Court.

In 1895, the members of the Nelson Acclimatization Society had the intention of importing fresh deer from England, and wrote to the Agent-General for New Zealand, in London, asking him to secure and send them quotations for supplying red deer up to £100 in value. Jamrach quoted £12 each for stags and hinds f.o.b. London. Inquiries were also made of the Steward of Lord Derby, Knowsley, but the matter was not further pursued. In 1899 a stag was obtained from the Otago herd and released in the Nelson district.

In introducing new blood into herds it appears to me to be advisable to do so in the form of hinds, unless stalking were to be suspended for a few years, as new stags are always liable to be killed in the first stalking season after their introduction, even if they are ear-marked. When newly-imported deer are being introduced into existing herds in New Zealand, they should, if practicable, be released in November, when the stags are either without antlers or in the velvet, as they are then disinclined to hunt and thrash the newcomers. At other times there is a risk of the strange deer being killed by pugnacious local stags.

In the 'nineties, Mr. Percy Adams captured a young stag and two young hinds, and held them in an enclosure near his residence in Nelson. During the rutting period a wild stag from the adjoining mountains, braving the dogs and unusual sights of a city, endeavoured to join this select coterie, and his presumption so angered the stag in possession that he became unruly, and made a vicious attack on Mr. Adams, injuring him rather severely. Fortunately, the fence was made in part of parallel wires, and as the stag forced Mr. Adams against these he was enabled

to escape through them. Reprisals followed : the stag was lassoed and thrown, his antlers were sawn off, and he and his two consorts were carted off and turned loose in Langley Dale, 16 miles above Tua Marina, in the historical Wairau Valley, which, on the 18th June, 1843, was the scene of a fight at close quarters between a number of white pioneers and some Maoris under the leadership of the wily and notorious Te Rauparaha and his huge henchman, Te Rangihaeta. Twenty-two of the whites were killed, some in a skirmish, but the majority after they had surrendered and given up their arms.

In those early days when deer were first given the freedom of the forests, the province of Nelson was very sparsely settled. There were a few diggers in the mountain valleys, with here and there a tent or hut, but otherwise man was very much alone when he entered the great virgin forests to the south of Nelson City. One of the last indications of civilization on the southern track was a wayside inn, built of galvanized iron, bearing a signboard with the words painted on it in large letters : " Let Glasgow Flourish ! " a slogan that is apparently being maintained in Glasgow itself.

CHAPTER II

THE INTRODUCTION OF RED DEER TO WELLINGTON

WHEN the historian delves amongst the correspondence concerning the infancy of New Zealand he may perhaps find the name of the man who prompted the introduction of red deer into the Wellington and Canterbury districts. I have not been able to discover this, but I have found that on the 6th July, 1862, the sailing ship *Triton*, 255 tons, owned by Davis & Company, Cardigan, reached the port of Wellington, having on board two red deer, a stag and a hind, the survivors of three which had been shipped in London. About the same time the *Harwood*, 462 tons, owned by Fotheringham, London, had arrived in Lyttelton, having on board one red deer hind, the sole survivor of three deer which had also been shipped in London for Canterbury. These three deer had weathered the stress and storm of a voyage of nearly 12,000 miles in small-sized sailing vessels, one of which had occupied a period of one hundred and twenty-seven days. They were the survivors of six red deer, two stags and four hinds, which were presented to the people of New Zealand by the late Prince Consort. This gift must have been arranged for immediately prior to the death of His Royal Highness in 1861. Of the many books,

pamphlets and printed papers that I have searched, I came across only one reference to the importation of red deer into New Zealand from Windsor Park, and this occurs on p. 231 of the book—*A Vacation Tour at the Antipodes*, by B. A. Heyward, M.A., Cambridge, published 1863. It reads: "The Prince Consort presented some red deer, a stag and two hinds, to this province (Canterbury) but only one hind survived the voyage out. As there is a stag at Wellington, no doubt we shall hear of deer in various parts of the Colony."

The arrangements for shipping these deer from London were made by John Morrison, who was then Government Agent for New Zealand in London.

In an endeavour to ascertain the genesis of the presentation of red deer from Windsor Park to New Zealand by the Prince Consort, I have had, by the courtesy of the Secretary of State for Great Britain, the privilege of searching the Colonial Office Records, but no reference to the matter could be found. The Hon. J. W. Fortescue, Chief Librarian to His Majesty the King, also very kindly made search in the Records of Windsor Castle, but without success. In the course of my inquiries I found that the Prince Consort sent red deer from the parks of Windsor to several places in Australia at the same time as he sent deer to New Zealand. It therefore is likely that the one gift prompted the other, and His Royal Highness may have made the presentations on his own initiative, and not on request. In examining an Accounts Book for 1862, I, however, came across the following historical particulars respecting them :

In account with John Morrison, New Zealand Government
Agent in London.

			£	s.	d.
May 5th 1862	Paid John Martin A/c. for provender				
	for deer per <i>Triton</i>		32	12	9
do. do.	J. Longhurst A/c. for boxes for deer				
	per <i>Triton</i> , <i>Harwood</i> and those not				
	yet sent		26	2	0
June 7th 1862	John Martin A/c. for provender for				
	deer per <i>Harwood</i>		34	2	9
June 30th 1862	Charges per <i>Triton</i>		6	1	3
do. do.	Charges per <i>Harwood</i>		6	0	4
August 5th 1862	Paid H.Ms. Game-keeper, keep deer				
	and game per <i>Harwood</i>		11	18	1
do. do.	Do. Do. <i>Triton</i>		12	0	0
			£128 17 2		

The deer for Wellington were consigned to Governor Weld, who arranged with Dr. Isaac Earl Featherston, the Superintendent of the Province of Wellington, to provide for their care and custody.

On arrival they were placed in a stable locally known as "Noah's Ark," which was situated on the foreshore of Wellington Harbour near an old jetty belonging to the late Barnard Rhodes. This stable was opposite "Dicky" Barrett's Hotel, which stood close to Plimmer's Steps.

In course of time the hind which reached Canterbury in the *Harwood*, having no mate, was sent to Wellington and put with the two others. During the detention of these three deer in Wellington a local controversy arose in respect of the cost of their keep and attention, and, by some of the townspeople, they were regarded in the light of "white elephants." Finally, the late C. R. Carter, who was then a Member of Parliament, representing the Wairarapa District, came to the rescue and undertook to have the deer



THE LATE PRINCE CONSORT AND QUEEN VICTORIA.

I am afforded the privilege of reproducing this picture by the gracious permission of His Majesty the King, who kindly lent me the original from Windsor Castle.

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transported to his farm at East Taratahi, near the small settlement of Carterton. They were conveyed from Wellington to Carterton, a distance of 58 miles, over the Rimutaka Ranges, in a horse waggon belonging to one Hastwell. Mr. Carter placed them in charge of his brother-in-law, Mr. James Robieson and he—being a Scotsman and a good sportsman—was very proud, as he told me, of having in his charge the first deer to reach the North Island of New Zealand. He also informed me that they were then in very poor condition and were fed on dry hay and newly-cut green grasses, on which fare they rapidly improved. The stag had good-sized, uniform antlers with seven tines on each beam. I have a shed antler of seven points which was found near Carterton in 1865, three years after the deer were liberated, which it may be confidently assumed belonged to this stag.

The *Illustrated London News* of 21st August, 1869, announced that the deer presented to New Zealand by the late Prince Consort “now number upwards of 20.”

In 1876 or 1878 the late Major R. Campbell shot a stag which was then believed to be the one from Windsor Park ; he was very old, and his antlers had deteriorated to a considerable extent. In 1897, thirty-five years after the deer were liberated, I shot, in the Wairarapa district, a 14-pointer, whose antlers conform in configuration in a most remarkable manner to the antler of the imported stag. The same type of antlers was *frequently* produced in the Otago herd some fifteen years after the introduction of Windsor blood to this herd.

The original account of the introduction of Windsor deer to New Zealand was prepared by me, and it first

appeared in the Annual Report of the Wellington Acclimatization Society for 1896. It was written after I had discussed with Mr. James Robieson, of Cave Lands Farm, Wairarapa, many of the incidents connected with the disposal of the deer after their arrival in Wellington. With the view of endeavouring to obtain additional information on the matter I recently wrote to his eldest son, Mr. George Robieson, of Wellington, who in reply informed me that his father—now over eighty years of age—had searched the depths of his memory and had made an interesting report, from which I extract the following :

“The unduly long detention of the three deer in confinement in Wellington was probably in a measure due to the difficulty of transport over the ranges which surround that city and the selection of a locality where the deer would be reasonably secure against shooting by the Maoris. In offering the deer sanctuary on his farm of 5000 acres, C. R. Carter believed that as they were very tame they would remain near his homestead where there were extensive areas of bush and so afford him a suggestion of Old England in New Zealand. Most of the pioneer settlers having had this form of nostalgia imported all kinds of things, some useful, others useless and harmful, such as the Scottish thistle, which while inspiring as an emblem of Bonnie Scotland was otherwise a veritable pest.

“When the deer reached Carter’s farm they were placed in a night pen for sheep and retained there for some time to give them ‘a sense of home.’ When it was considered they had become familiar with the place, a day was named for their liberation and adjacent neighbours were invited to be present. During the forenoon of this day one of the hinds made a very high jump through a small opening in the shed and

escaped, making off for some distance, but finding herself alone she returned to the vicinity of the shed and there lingered until the two other deer were released. They were very tame and Mr. Robieson, thinking to show the stag off to the visitors, especially as his intended wife was also present, fastened a rope around his antlers, but the stag resented this indignity in a pronounced manner by charging James Robieson and driving him out of the shed. When the stag regained his normal temper the rope was removed, the door opened and away the two deer scampered, being quickly joined by the waiting hind. The first obstacle in their course was a post-and-rail fence which they avoided, probably on account of its unfamiliarity to them, but on reaching a high thorn hedge they 'made no hurdle of it' and took it in their stride making off eastwards for about a mile, where they settled down and became objects of curiosity, interest, and fear to shepherds and others: the fear being caused by the stag making after them. These men did not stay to argue, but dodged over and under fences as circumstances required. It was discovered later that the stag was not combatively inclined but merely hankered after tit-bits of sugar and bread to which he had become partial while in captivity. Later on, the three deer, which kept together, moved across the Ruamahunga River and settled down with some cattle on the run of a settler named Jury, a few miles south of the village of Gladstone. Jury took great interest in the deer and protected them by giving warnings to settlers and Maoris alike, that 'aggravated' death awaited anyone and every one who molested them in any way. After the first rutting season the stag returned to a clump of bush near Carter's homestead, but owing to his raids on the vegetable garden of a small settler, he was threatened

with destruction, thereupon James Robieson organized a beat of settlers and forming a wide half-circle, they started him going eastwards and he made straight off to the hinds and never again returned. The first breeding took place on Jury's run and thence the deer spread to the back of Martinborough and over the Maungaraki Ranges to the Wainuioru Valley and thence eastwards to Te Awaite, White Rock, and other parts of the East Coast."

This gift which the Prince Consort made to New Zealand so early in its history is, judging from present-day results, one of the most successful instances of acclimatization of deer on record. From these three deer have sprung scores of thousands, and they have spread over an area which embraces hundreds of miles of mountainous forest country.

I had these deer officially recorded as "The Royal Albert Herd," and when I first stalked them on the Maungaraki Ranges in 1893, it was a comparatively easy matter to secure three or four good royal heads in one day, but time has brought closer settlement, a great destruction of forest trees, and many more stalkers, so that at the present time good heads are not plentiful in this particular locality. In those earlier days, too, many of the runholders and farmers closely protected deer, but as they multiplied so quickly they became a nuisance in some cases, and active efforts were made to reduce their numbers. On one station alone the owner made contracts for the destruction of a minimum number of three thousand deer annually for several years in succession.

Illegal shooting of deer was also very rife at times, and backwoods camps were kept in venison, even to



HEAD OF RED DEER STAG KILLED AT WAIRARAPA.

Points 15. Length $38\frac{1}{2}$. Spread $34\frac{1}{2}$. Coronet $8\frac{3}{4}$. Girth $6\frac{3}{8}$.
Breeding: Windsor Park—German.

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feeding of large packs of "rabbit dogs" on it all the year round.

The increase of settlement and the wholesale destruction of deer by farmers and others caused a serious diminishment in the Royal Albert Herd, so, with a view to affording a measure of protection to them, I, in 1902, made representations to the Government on the matter, with the result that a reserve of 32,000 acres of rough bush land, known as the Haurangi Forest Government Reserve, of little or no use for settlement, was proclaimed as a sanctuary for deer. Owing to representations made by the Wellington Acclimatization Society and others, the Government, several years later, relaxed the regulations in regard to this forest reserve, and permitted shooting therein, with the result, I am informed, that there are now no good stags left in it. Young deer were, however, transferred to the Tararua Ranges and elsewhere, and new herds are thus being developed in heavily-bushed, rough country which will afford natural—and possibly more effective than legal—protection.

The predominating type of antler from the Royal Albert Herd is a counterpart of those carried by the stags which are to be seen in Windsor Great Park to-day. Others are what one might term wild park, similar to those of the Irish stags which roam wide expanses of 20,000 to 30,000 acres of forest. Others, again—but a small proportion only—resemble in appearance the antlers of wild deer of the Scottish Highlands.

The deer themselves, too, have in some cases pronouncedly different body characteristics; some there are which appear to be strongly built and thick-set, of dark brown pelage. These have short, stocky

heads and wide faces well covered with thick curly hair. Other deer have longer and slighter looking bodies, and are of lightish grey colour, with short straight hair on their brows. The heavy-looking dark stags usually have thick antlers of moderate length, while the grey ones run more to length and less to thickness of antler.

These dissimilarities caused me to make close inquiries respecting the pedigree of the Royal Albert Herd, as it was generally understood in New Zealand that the Windsor Park deer were of pure English descent. The heavy body, stout antlers, broad face and curly brown hair suggested foreign origin, and, as early as 1895, I brought the question forward and certain authorities in London were written to, and a suggestion made that there might be a German strain in the Royal herd.

Reply was made that "the Windsor deer were pure English and there was no German blood in them." This statement was supported by a writer to *The Field*, in 1896, who credited the Duke of Fife with stating that "Windsor deer were known to be of pure English breed." Under date of the 17th November, 1896, Mr. Allan Gordon Cameron, the well-known Scottish authority on deer, wrote to *The Field* as follows:

"I believe it is a matter of history that the native deer of Windsor Forest were thinned out to such an extent during the turbulent times of the Commonwealth that King Charles II. found it expedient to re-stock the Forest with German deer. In these circumstances we must not look for 'a pure English breed' in Windsor Park."

In 1904-5 I was at the Louisiana Purchase Exposition, as Commissioner-General for New Zealand, and there New Zealand and Germany had courts, near to each other, in the Palace of Forestry. Each had good displays of red deer heads, and I was much struck with their very close similarity of type. I took the opportunity of placing a number of heads from each of the exhibits together, and for size and general appearance of antlers one might have concluded that they came from the same herd. I was then more than ever convinced that there was some relationship between the Wairarapa and Continental deer, and on return to New Zealand I spoke of the matter to the Members of the Council of the Wellington Acclimatization Society.

In 1907 the subject was re-opened by the Chairman of the Society writing to the High Commissioner for New Zealand in London, asking him to endeavour to ascertain the breeding of the Windsor Park deer, and to him these questions were put :

“ Were they ‘ Scotch ’ deer park fed, or had they any German blood in their veins ? ”

Under date of 14th January, 1907, Captain Walter Campbell, Deputy Ranger of Windsor Park, answered the inquiry in these terms :

“ The deer in the Park here are, and always have been, perfectly pure. They are very fine specimens of ‘ Scotch ’ red deer, park fed. There is no taint of German blood in them of any kind.”

In the issue of *The Field*, 15th September, 1906, it is stated that the deer of Windsor Park were

replenished from English, Scottish, German, and Danish deer.

“During the Civil War a general onslaught was made on emparked deer; pales (fences) were broken down and used for firewood and the deer of many important parks were exterminated. The Windsor Parks suffered seriously and King Charles II. appealed to those concerned to allow his decimated herds to replenish themselves. It was in the re-establishment of the Royal herds of Windsor Park that the King imported red deer from Germany.”

On the 13th March, 1907, the Hon. J. W. Fortesque, Librarian-in-Chief to His Majesty the King, historian, and author of *The Life of a Red Deer*, wrote to me in Wellington from Windsor Castle, informing me that :

“he had been searching the archives of the seventeenth century and had ascertained that deer were imported from Germany into Windsor Park in the time of King Charles II., in order to make good the havoc wrought by poachers during the Civil War.”

It will thus be seen that in 1661 the red deer of the Royal Parks of Windsor ceased, as herds, to be of purely English origin, and it was from the progeny of these English-German—maybe Scottish, and in all likelihood Carpathian—deer that sprang the Royal Albert herd of New Zealand.

It is somewhat remarkable that there should have been any doubt or misunderstanding in respect of this important matter by those who were so intimately concerned, as Evelyn Shirley, in his book *English Deer Parks*, published in 1867, writes as follows :

“During the Great Rebellion in 1641 deer in many hundreds of English parks were slaughtered in great numbers by the soldiers of Cromwell and the people. Windsor did not escape the hands of the despoilers.

“In 1661, however, deer were brought from Germany and elsewhere to replenish Windsor and Sherwood Forests, and on the 13th November of that year a warrant was signed for the payment of £1000 to Sir William St. Ravy for expenses of transporting red and fallow deer to Windsor. On July 7th, 1662, a warrant was issued to Robert Child and William Bowles, Masters of the Toils, to order the taking of fallow-deer in the parks of the Earl of Northumberland and twenty-six others, and of red deer in those of Lord Paget and Mr. Winwood, and conveying them to the Royal Parks; £1700 was ordered to be paid for this service.

“In 1666 a baronetcy was granted to the son of Dr. Peyton of the Isle of Ely, a loyal man, who had given His Majesty deer to re-stock his parks.”

Accepting as correct the statement of *The Field* that Scottish blood had been introduced into the Royal herds, this doubtless affords the reason why the occasional production of antlers of the Highland type occurs in the Wairarapa herds, as, up to the time of which I write, no mixing of Scottish blood with this herd had taken place in New Zealand.

CHAPTER III

THE DEVELOPMENT OF THE ROYAL ALBERT HERD, AND SOME STORIES

IN 1887, the first year that the Wellington Acclimatization Society granted licences to shoot red deer stags, six only were applied for and issued. There was no limitation as to the number of deer which might be shot, nor restriction as to number of points. Owing to a period of wholesale slaughter which ensued in subsequent years, I proposed to the Council of the Society that the number of stags should be restricted to six for each licence, and that no stag should be shot which carried less than ten points. These proposals were accepted, and regulations covering them were brought into operation.

In those early days the Royal Albert herd produced some very notable heads. Of these one, known as the "Wellington Club head," which carried 22 points and was shot by the late Nat Grace, in 1892, and a very fine 17-pointer, shot by the late John Strang, of Glenside Station, Gladstone, in 1893, are remarkable for exuberance and proliferation of antlers. Both were shot on the Maungaraki Ranges and within a short distance of each other, and it is likely that they were antagonists in many a hard-fought combat for supremacy of the herds.

As a matter of fact, the late W. Dalrymple ought to have killed the stag carrying the "Club Head." He was stalking it and Grace was accompanying him. When they came up to the stag, his size, patriarchal appearance and heavy antlers caused Dalrymple to have a very severe attack of "stag fever," so realizing the futility of shooting in that condition, he very sportingly handed his rifle to Grace, who killed the stag. Mr. J. S. Handyside, who was in the vicinity at the time, told me that the stag was ear-marked. If that were so it was probably due to a cut caused in fighting or a bullet. Antlers entitled to be classed as large, which were obtained in the Wairarapa, probably total several hundreds; many of them have not been either measured or photographed, and hang up in the homes of out-back settlers. In early days it was also a common practice for New Zealanders to make presents of unusually large stags' heads to friends in the Old Land, and many such are now in England and Scotland. In several London Clubs there are splendid examples of New Zealand heads which bear no written indication of their origin, and their identity has thereby been lost to those who now own them. In a London auction-room, I recently saw a pair of very good Wairarapa antlers; the head, however, was grimed with many years' accumulation of dirt, the skin was ragged in parts, the ears were cocked at different angles, and one eye was missing.

There is no room for wonderment at the prodigality of antler produced by the Wairarapa herd. Their progenitors on the German side are noted for size and sturdiness of antlers, and the English park deer has the same attributes in a lesser degree only. The original imported deer were placed in a new country,

and they and their offspring had undisturbed possession of practically an unlimited area of land on which to roam, the percentage of matured stags to hinds was in consequence high. The soil is exceedingly fertile, and in the locality of their liberation there is abundance of limestone, English and native grasses, and, what is more important, a wealth of tender evergreen native bushes, on the leaves of which the deer delight to browse. There is heavy forest cover of non-deciduous trees, with open glades; no snow, but a temperate climate with lots of sunshine. The deer, therefore, have their three meals a day and a warm bed, and it is not to be wondered at that they thrive and develop so well in such ideal conditions.

The deer of Wairarapa, Nelson, and Otago, as a general rule, maintain their own type of antler, although occasional variations do, of course, occur as in all herds. There was in the past a consistency of style of antler in each herd which enabled stalkers readily to identify their origin. This, however, cannot be expected to continue now that there has been such intermixtures of blood that all the red deer in New Zealand have a common relationship.

In September, 1920, Mr. Simon Campbell, formerly manager of the Stoney Creek sheep-run, Wairarapa, visited the New Zealand Government Offices in London, and when inspecting my collection of over thirty red deer heads, which was on exhibition there, he pointed to one as being a Cape River head. Of another he said "that one is from Te Awaite." Of a third he said, "That is a Maungaraki head"; in each case he was correct; but of one other large head he said, "I cannot place that one." This was not surprising, as it had come from Otago, which was beyond his ken.

This instance of ready identification shows fairly conclusively that a stalker, or resident, of the Wairarapa who closely observes the deer, can, in a general way, indicate not only the districts but the localities in those districts whence antlers were obtained.

After twenty-five years' range of the Wairarapa Forests the deer that had developed from the Windsor herd were remarkably free from malformed antlers. The satisfactory condition was, doubtless, primarily due to the absence of an hereditary taint of antler disease and the fact that the stalkers who went to those forests and the local settlers took upon themselves the job of killing any occasional stag they saw with an aberrant head. This self-imposed action removed the rubbish and kept the herds clean, and it prompts the suggestion that the Acclimatization Societies should, in the interests of the forests, encourage stalkers to kill all stags which they see carrying malformed antlers. An authoritative endorsement on the licence would meet the contingency. With the limitation of the number of stags which may be shot, stalkers naturally seek to obtain their quota of first-class heads; consequently they kill only those stags in the prime of life that are carrying large antlers, leaving the immature, old and decadent, and the stags with deformed antlers, to consort with the hinds and perpetuate their defects. To many of the stalkers, the actual stalking is as attractive as the securing of trophies, and they would enjoy stalking stags which they were licensed to kill, even if their heads were fit only for the rubbish-heap. Such a policy should result in the killing of many stags with wrong heads that are not seen by the men who are employed from time to time to kill them.

Recent reports from the Wairarapa show that malformation of antlers has become somewhat more common of late years, especially in those forests where there is an excessive number of hinds in comparison to matured stags.

The practice which prevails of killing the best stags during the rutting period, thereby leaving the propagation to young immature beasts and conserving those stags with defective antlers must, in course of time, have pernicious effects on the herds.

The *New Zealand Gazette* issued on the 19th August, 1920, contains an Order in Council under the hand of Sir Robert Stout, Chief Justice, who was Administrator during the interval between the departure of Lord Liverpool and the arrival of Lord Jellicoe as Governor-General, authorizing

“ the killing of red deer, of either sex and of any age, which should be destroyed either by reason of age, deformity, or any other reason, during a period of three months from date (14th August). ”

The red deer in New Zealand rut in March–April, the period of gestation is eight months ; consequently, from the 14th August to the 14th November the hinds are heavy in calf, the calving period being from mid-November to the end of December. Here there is an unfortunate extension of the repugnant practice which obtains in Otago of killing hinds when they are on the point of parturition.

In the absence of animals destructive to game, man has to remedy the omission by killing off the unfit and excess, and thereby keeping the deer within reasonable numbers and cleansing the herds of un-

desirable units. The work should, therefore, be performed as humanely as possible, and at a period when the beautiful and inoffensive female deer is not heavily in young.

The Wellington Acclimatization Society, with considerable foresight, early recognized the importance of taking action in the direction of introducing red deer into some of the mountainous portions of their district other than South Wairarapa. In this connection they made arrangements, in 1897, with Mr. John Martin, of Puruatangi Station, near Martinborough, who took a special personal interest in the matter, to have his run proclaimed a sanctuary for deer, so that they should not be disturbed by shooting, and the hinds would therefore resort thereon in the calving time. The year following, 1898, the Society sent its game ranger, Fred Moorhouse, to Puruatangi in control of a deer-calf-catching party.

Moorhouse and his men camped on the run near a likely looking place for deer, and, rising at daybreak, they watched the hinds through telescopes, and when the actions of a hind indicated that there was a young one in the vicinity the mother was stalked and kept in view. The first time that she left her calf, to go and feed, Moorhouse and his men crept forward and secured it.

Deer calves and fawns have apparently no inherent fear of mankind, as when they are taken from their mothers shortly after birth they show no timidity, but, on the other hand, quickly display a friendliness towards human beings of either sex. When deer calves are approached by man on the day of, or day after, their birth, they usually lie flat on the grass as a means of concealment, and they are not therefore

readily seen unless specially looked for. It is stated that Moose calves do not give off any odour when very young, doubtless a protective provision against their detection by wolves and lynxes. I am not, however, aware whether there is an absence of odour in very young red deer calves. One would probably require a very keen sense of smell and the close application of his nose to the calf to detect it.

When calves were caught they were carefully carried in the arms of the men to one of Martin's dairy farms, and there given cow's milk, in a warm condition, out of an infant's feeding-bottle. They readily acquired the habit of artificial feeding, and later drank milk from a bucket.

The practice of rearing deer calves on cow's milk is not by any means of recent origin, as is shown by the following quotation made from the household books of the Clifford family, 1609 :

“ Gave to John Wardman for the charge of himself and two men carrying XIII Kyne and 25 Hynd calves to my Lady Suffolk at Saffron Walden on whom my lord did bestow them VII li.”

The deer calves were taught to suck the cows, and they, in consequence, followed their foster-mothers when driven from the deer park of Lord Clifford to Audley End.

The proportion of twenty-five calves to thirteen cows is almost two each, and is enlightening as to what can be done in this direction.

In 1901 Moorhouse and party captured twelve calves, and of these eleven survived and were fully reared : four of them were taken to the Acclimatization Society's Game Farm at Paraparaumu, and seven were,

on my suggestion, handed over to the Government Tourist Department, and I had them liberated near Lake Waikaremoana. In addition to their own calf-catching operations the Society encouraged farmers to secure deer calves and rear them, and these were purchased at prices remunerative to the farmers.

The practice of calf-catching in wild herds continued for many years until the successful operations at the Game Farm of the Wellington Acclimatization Society rendered this work no longer necessary.

Presents of red deer were received by the Society from Mr. George Chirnside, of Werribee, Australia, and Mr. Charles Lucas, of Warnham Court, England, and these were released on the Game Farm.

When the calf-catching operations were in vogue the Government entered into a business arrangement with the Wellington Acclimatization Society, whereby the Tourist Department was to receive an agreed percentage of the calves captured in the Wairarapa, and later this contract was made to apply also to the calves raised at the Game Farm, Paraparaumu.

Red deer raised by hand are not, as a general rule, of such size or quality as those which are developed in a natural manner, but their progeny in normal conditions develop fully in size and the stags produce good antlers.

Stags that have been reared by hand exemplify the old adage of familiarity breeding contempt, as in their close association with man they become unafraid, and when the spirit of mischief prompts them they do not hesitate to attack him.

One of the calves that had been raised by hand was named Billy, and owing to his many misdemeanours, he became quite a public character.

"Billy" was born on the Hungaroa sheep and cattle station, Lower Valley, Wairarapa, and came from the Royal Albert Herd. He was kidnapped from his mother on the day of his birth, put on a feeding-bottle and thrived well. When three years old he produced the phenomenal growth of ten times, six on the right and four on the left antler. Whether the proud possession of his "rights" at this early period caused him to be unduly aggressive can only be assumed, but he became an unmitigated nuisance owing to his chasing any one, and every one, who went within "cooee" of him; so Mr. William Martin, the owner of the station on which he was at large, had him rounded up with some cattle, and driven with them to Matthew's Wairongomai station on the western side of Lake Wairarapa, in the hope that he would take to the Tararua Mountains. He however remained near the homestead, and gave a lot of trouble, becoming notorious for running after the dairy maids, "sticking up" pedestrians, and on one occasion he distinguished himself by chasing a cyclist, who took refuge in a tree. "Billy" thereupon investigated the bicycle with his antlers, and wrecked it completely. During the rutting period he made such frequent attacks on women that the settlers in the neighbourhood demanded his removal. The Wellington Acclimatization Society thereupon had him run into a cattle yard, here he was roped, thrown, and his antlers sawn off by Fred Moorhouse. "Billy" was then put into a railway cattle truck and conveyed to the Tongariro National Park and released near Mount Ruapehu, in the expectation that he would join the local herd. A change of scene did not, however, effect a change of demeanour, and after getting his new antlers, which, by the way, had six points on

each beam, he took upon himself to patrol the coach road between Waiouru and Tokaanu, and here one of his first overt acts of war was to charge Mr. Malcolm Ross, who tried to photograph him. On the same day he followed a mail coach for many miles, incidentally frightening a Maori boy, who was on horseback, and who galloped back to the Maori settlement at Tokaanu and breathlessly reported the advent of *te rewera* (the devil). The Maoris turned out in force to see the strange creature of horns and hoofs, and the younger people tried to catch "Billy," with the result that he knocked one man down and gored him, but did not kill him. The following day "Billy" made an attack on a Maori woman named Teko and gashed her head, body and limbs so severely that she became unconscious, and lay out in the forest all night. The next day she crawled for nearly a mile to a Maori village, and told of her experience. The Maoris were so incensed at this "spilling of blood" that, in accordance with their custom, they required *utu* (satisfaction), which they obtained by shooting "Billy" and ignominiously burning his carcase. They, however, preserved his head, stuck it on a pole and jeered at it in the old Maori fashion. I saw it some time afterwards: it was then exhibited on a small grocery store on the side of the main coach road at Tokaanu, as a warning to other stags. Following her adventure with the stag, telegraphic bulletins were issued to the newspapers respecting the condition and progress of Teko:

- No. 1. She was insensible.
- No. 2. Dead.
- No. 3. One eye gouged out.
- No. 4. Very seriously injured.

- No. 5. Teko is making a good recovery under the care of the district policeman.
- No. 6. Treatment consists of frequent immersion in a hot mineral water pool.
- No. 7. Teko now quite well.

On 4th March, 1918, the Government of Great Britain paid a man £10 as compensation for personal injuries caused by a deer in Bushey Park; and this reminds me of a nice legal technicality raised in the State of Minnesota, U.S.A., by a man named Phair, who, when hunting, was attacked and seriously injured by a bull moose. He endeavoured to institute an action-at-law against the Governor on the grounds that the moose was a ward of the State, and the shooting of him was prohibited by law: therefore he did not use his rifle to protect himself, and had no option but to permit himself to be injured. The elasticity of American law is so great that a court case may be pursued for years, as is evidenced by the trial of a man named Rudolph, a notorious burglar and gaol-breaker, who was in the St. Louis gaol under death penalty for murder. He told me that he had been under sentence for over a year, and that he had just lodged a third appeal against conviction. As a matter of conversation I asked him the grounds of his last appeal, and he said, "Because, when he shot the man, he didn't know he was a policeman." I remarked it was a slender hope. He agreed with a laugh, saying, "If he hadn't been an 'adjective' policeman I'd have got off long ago."

Hornaday says that tame deer are, as a rule, dangerous in the mating season, and he has seen gentle pets transformed at this period into murderous

demons ready to gore any man who dared to venture near. Further, he says it is always dangerous to make a pet of any male deer after it is two years old.

The Feilding Jockey Club (New Zealand) at one time had some deer in its ornamental grounds, contiguous to the racing track. A young buck attacked two women at different times within the same week. During the same period men were frequently in this enclosure, but the buck made no attempt to interfere with them. The week following some boys and girls were playing in these grounds, when the buck, disregarding the boys, went up to a girl nine years of age, knocked her down and seriously injured her. On the 13th September, 1922, preliminary to the general rut, a red deer stag made an attack on a woman in Richmond Park by prodding her back with one of his antlers. Her husband attempted to drive the stag away, when he promptly charged him. The man seized the antlers and held on to them until relieved by some of the Park keepers, who galloped to his assistance.

During the breeding seasons the males of tame or semi-tame animals, such as deer, goats, and antelopes, show a decided propensity to attack women or girls. This aggressive disposition is, I conclude, prompted by sexual influences.

It is recorded that a gentleman who owned a park at Tyrawley, Ireland, possessed a herd of fallow deer and one young red deer stag. The latter was permitted to frequent the premises adjacent to the residence, and became so tame that he was regarded by the family as an entertaining playfellow. In course of time this stag developed into a large and powerful animal, and then became bold and dangerous. He

disliked strangers and women, and displayed his aversion by charging them whenever opportunity offered. He contracted a particular fancy for horses, and spent a good deal of his time in the stables. When the carriage was driven to the hall door, the stag accompanied it whenever he had a chance of so doing.

He condescendingly permitted the men whom he knew to enter the carriage, but objected to any woman doing so. When the mistress of the house, or any other woman, desired to go for a drive the stag had perforce to be driven off by servants before she could approach the carriage. He became such an intolerable nuisance that he was banished to an enclosure which contained fallow deer. This disgrace so injured his feelings that he avoided any association with them. He began to pine, and soon "died of a broken heart."

This general aspersion against the characters of male deer has, however, another feature, as Millais has informed me that the late Sir V. Brooke had at Colebrook a big stag, the Master of the Park, that he could approach and caress at any season of the year, and in proof thereof Sir V. Brooke had sent him a photograph of this stag taken "close up" in October (during the rut), when he was half asleep and quite gentle. He also gives me an instance of a fallow buck belonging to Sir P. Brocklehurst, of Swythamley Park, Macclesfield, which in the height of the rutting season would enter the house and go up to his master, who was seated at the breakfast table. On the other hand, Millais gives in his own book, *British Deer and their Horns*, several instances of stags attacking individuals.

The activities of the Government Tourist Department and various Acclimatization Societies, particularly the Wellington Society, has resulted in the

establishment of some thirty odd subsidiary herds of red deer in different districts extending over a latitude of about 600 miles. The more important of these are in the districts of Rotorua, Galatea, Tongariro, Erewhon, Mahia, Lake Waikaremoana, the Ruahine Ranges, Eketahuna, Tauherenikau, Wainuiomata, "The West Coast," Pomahaka, Waikaia, Lake Wakatipu, Lake Manapouri, and elsewhere.

Many of the young deer that were turned out in these localities were reared by hand, others were presented to the Tourist Department and the Wellington Acclimatization Society by Mr. George Chirnside and his daughter, Miss Audrey Chirnside, of Werribee Park, Victoria.

WINDSOR

As most of the deer in the North Island of New Zealand are descendants of stock from the Windsor parks, I here include some information respecting Royal Windsor and its deer that may be of interest to my readers.

Windsor Park is probably the most famous in history. William the Conqueror selected Windsor Castle, which was known to the Saxons as Windleshora, for a residence owing to his being attracted to it by the beauty of the neighbourhood, the salubrity of its air, its convenience for the pleasures of the chase, and its vicinity to woods and waters.

Windsor is recorded in the Domesday Book as Windesores, "an estate presented by Edward the Confessor (1042-1066) to the monks of Westminster Abbey and was purchased by William the Conqueror." He and his noblemen devoted much time to the chase.

About this time, 1066, Windsor Forest embraced an area of land fully "120 miles in circumference." It is said of earlier Englishmen "they hunted well and they fought well," and, notwithstanding our cry of race decadence, this statement holds good of the Briton of to-day. The Great War has again proved the assertion as regards fighting, and the Briton still leads the world across fox and deer-hunting country.

In 1631 Stowe writes of Windsor: "the pleasant pastime arising out of the forest chace and fourteen parkes that waite upon it."

Edward VI. appears to have extended the deer parks of Windsor by establishing the Home Park, and it was here that Henry VII. and Philip, King of Castile, "eyche of the kynys kyllled certene deare, to theire owne hands, with theire cross-bowes."

In the third and eighteenth years of the reign of Edward III. licences were granted

"to hunt within the royal forest of Inglewood, to the principal forester, for the honour of the King, to give leave to knights '*et probris hominibus*' to lords and other nobles, also to sick and pregnant ladies, to have one course for a stag, hind, buck or doe, within the said forest."

The Normans indulged in the chase of red deer as a "grand passion," and many a man lost his eyes or life for taking illicit toll of the herds. Owing to the large areas of untilled lands and the comparative scarcity of cattle and sheep in those days, deer occupied an important position in regard to food supplies; therefore the parks had their utilitarian values as well as affording sport to their owners. The military



Photograph by James Balfour.]

RED DEER STAGS IN WINDSOR PARK, COUSINS TO THE DEER OF WAIRARAPA, NEW ZEALAND.

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ascendency of England was more than once seriously impaired as a result of laws made in relation to deer. One occasion being when Edward the First forbade his lieges of the forests to use the cloth-yard shaft on their bows ; and again, when Henry the Eighth would not permit the general use of the newly-invented hand-guns instead of the old-fashioned bows and arrows.

Queen Elizabeth was fond of hunting the deer, and it is recorded that "in the 15th year of her reigne she came to Berkeley Castle, what time Henry Lord Berkeley had a stately game of red-deer in the park adjoining, called 'The Worthy' whereof Henry Ligon was keeper, during which time of her being there, such slaughter was made as twenty-seven stagges were slayne in the toyles in one day, and many others, on that and the next, stollen and havacked." Lord Henry was absent when this Royal battue took place causing the destruction of game "on which he set his delight"; when he was "advertised" of the fact "he sodainly and passionately disparked that grownd." Subsequently he had a "secret friendly advertisement" from the Court advising him to carry a wary watch over his words and actions, as his head and castle might be in jeopardy.

Another Royal deer-hunting adventure caused one Thomas Burdet "to lose his lyfe." He was the owner of Arrow Park near Alcester, where King Edward IV. killed a white-buck, "which the owner set much store by, 'who passionately wishing the hornes in his belly that moved the King to do so,' was arraigned and convicted of high treason for those words, upon inference made that his meaning was mischevous to the king himself."

"On Thursday, the 18th August, 1575, Queen

Elizabeth rode to Hallow Park on her palfrey—where she hunted, and with her bow kylled one buck, and struck another buck, wch beyng recovered, she called for Mr. Abyngton, asking hym how many bucks he kylled and he said two bucks. And then said she, ‘Let one of the bucks be brought to the one Bayliff’s house, and the other buck to the other Bayliff’s house, with a better good turn,’ which bucks were brought to the Bayliffs’ houses accordingly.”

In August, 1592, Frederick, Duke of Wurtemberg, came to England, and “Queen Bess” entertained him at Reading; it is recorded by his Secretary that her Majesty deputed an old distinguished English lord to attend him, and directed him not only to show his Highness the splendid Royal Castle of Windsor, but also to amuse him by the way with shooting and hunting red-deer, for you must know that in the vicinity of the same place Windsor, there are upwards of sixty parks which are full of game. His Highness the Duke had capital sport and “shot off the leg of a fallow-deer, he also shot a stag in front with an English Crossbow.”

The following story, taken from the *Antiquarian Repertory*, may be of interest to those who, as New Zealand soldiers, had temporary homes at Oatlands and Walton-on-Thames hospitals, both of which were situated in former Royal Deer-parks :

“In the reign of Queen Elizabeth, John Selwyn, who was under-keeper at the park at Oatlands in Surrey, was famous for strength, agility, and skill in horsemanship; specimens of which he exhibited before the Queen at a grand stag hunt in that park. In the heat of the chase he suddenly leaped from his horse

upon the back of a stag (both running at the same time at their utmost speed) and not only kept his seat gracefully, in spite of every effort of the affrighted beast, but drawing his sword, with it, guided him towards the Queen, and coming near her presence plunged it in his throat, so that the animal fell dead at her feet. This was thought to be sufficiently wonderful to be chronicled on his monument, which is still to be seen in the Chancel of the Church of Walton upon Thames in the County of Surrey. He is there represented on an engraved brass plate sitting on the back of a deer at full gallop, and, at the same time, stabbing him in the neck with his sword."

Oatlands was originally known as Otelands. It was conveyed to Henry VIII. in 1538, and afterwards became a Royal park. It was enlarged by James I.

In 1449 Queen Margaret of Anjou had the following letter sent to the keeper of Royal Richmond Park, at Sheen :

"To my lords squier and ours, J. D. Keper of Shene Parke, or his Depute there—

"Trusty and welbeloved—For as moche as we suppose that in short tyme we shall come righte negh unto my lords menoir of Shene, we desire and praye you hartly that ye will kepe against our resortinge thedor, for our disporte and recreation, two or iii of the grettest bukkes in my lords parc there, saving alweyes my lords owne commandment there in presence—As we trust——"

In the days of Queen Anne (now dead) from four to five thousand deer were maintained in Windsor Great Park ; however, through the course of time the number has been considerably reduced. In 1911 the

approximate numbers were 110 red, 1000 fallow, and 100 roe deer. These numbers have been recently further reduced by the King owing to war conditions. In fulfilment of "Ancient Rights" about sixty fallow bucks and fifty does are killed annually by the head-keeper. Some are sent to those warrant-holders "who have a right to a deer every season"; the remainder are presented by the King.

The Home Park is now about four miles in circumference, and comprises 500 acres; the Great Park is 1800 acres in extent.

CHAPTER IV

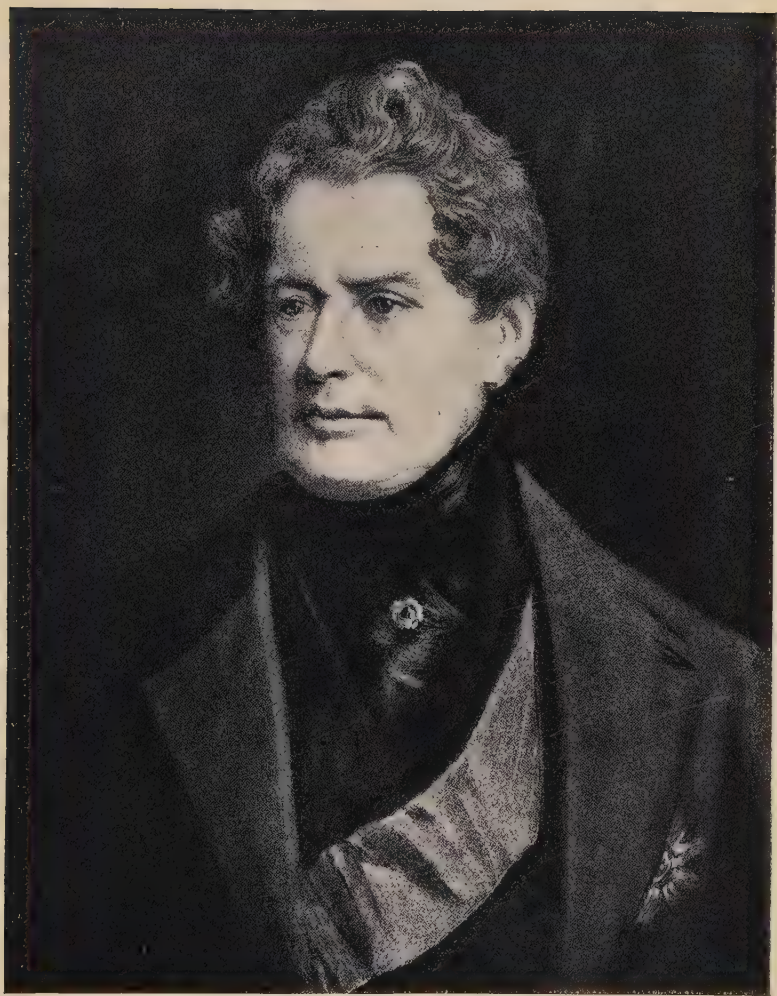
THE INTRODUCTION OF RED DEER INTO OTAGO

IN 1870 seventeen red deer calves were presented to the Acclimatization Society of Dunedin from Invermark Forest, Forfarshire, Scotland, by the eleventh Earl of Dalhousie. Eight of these calves, then five months old, were forwarded in the sailing ship *City of Dunedin*, 1084 tons, Captain Currie, which sailed from London on the 20th October, 1870, and reached Port Chalmers ninety-three days later. She was one of the three-masted, square-rigged liners with painted ports, so familiar to the "Old Identities." The two male and six female calves reached Dunedin safely, and were liberated on a spur adjacent to Timaru Creek on the Morven Hills near Lake Hawea, then known as "Big McLean's Country." The other nine calves were shipped from London for Port Chalmers in the *Warrior Queen*, 988 tons, Captain Wilson, which sailed on the 29th November, 1870, thirty-six days later than the *City of Dunedin*. They were in charge of Charles Bills, afterwards a bird dealer in George Street, Dunedin. The calves were insured for the voyage for £10 each. I have no record of the proportion of sex, or whether they all reached New Zealand alive. Those that arrived were released in 1871 on the Bushey Park Estate, near Palmerston South, then owned by the late Gordon Rich.

I regret that my efforts to ascertain the name of the enthusiast who first exercised activity in securing deer from Invermark have been in vain. The fact that some one had exchanged correspondence with "Lord Panmure's keeper" on the subject of deer for New Zealand several years before their actual shipment, indicates, I think, that the New Zealander had knowledge of Invermark. In all probability he was a Forfarshire man. In those days it would have been difficult for any one but a Scot to interfere in an important matter of this kind, for, as all the world knows, Dunedin was, in its foundation, a settlement of Scots. They had everything, kept everything, and managed everything, including the Corporation.

Not to be a Scot was to be a peculiarity. On one occasion the Scottish Corporation advertised for tenders for some municipal work. When these were received the Corporation sat in solemn conclave to consider them; first they scrutinized the amounts very carefully indeed, then they examined the names, and decided to give the contract to one Andrew Macpherson. The successful tenderer was notified in writing of the acceptance of his tender and requested to call at the Council Chambers, with his bondsmen, to sign the contract. When he arrived, the attendant announced "Meesterr Andrrew Macpherrson." To the surprise of the authorities, in walked a Chinaman. The Town Clerk exclaimed, "But you are not Macpherson." The Celestial, smiling cheerfully, answered, "Oh yes, me Andlew Macflerson. No Scottieman, no gettem the contact: welly good name 'Macflerson.'"

The late John Ewen, of the firm of Sargood, Son & Ewen, Dunedin, was in London about 1870, and acted as honorary agent for the Otago Acclimatization



THE LATE LORD DALHOUSIE, 11TH EARL.

For the opportunity of reproducing this portrait I am indebted to the
present Countess of Dalhousie.

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Society in making necessary shipping arrangements for both consignments of deer.

The view from the Morven Hills, where the calves were released, is very fine indeed. Lakes Wanaka and Hawea nestle, as it were, at one's feet with their clear cold waters softly lapping the sides of bold and rugged mountains. Mount Aspiring too, with its ten thousand feet piercing the clouds, is clearly visible in the west, as it stands capped with eternal snows, a monument of noble grandeur. The Hawea River to the east looks like a band of bright silver as it winds across the plains on its way to the sea.

The calves acclimatized satisfactorily and, in the solitude of their antipodean home, a large herd of deer rapidly developed. The run-holders of the district afforded them strict protection, and for many years these deer saw none other than an occasional shepherd. After twenty years of such seclusion, beyond the limits of fencing and with liberty to wander whither they chose, they were, although not indigenous, surely entitled to be regarded as "wild red deer" in the full sense of the words.

The Hawea district was, in those early days, remote from settlement and difficult of access. To get there a long horseback journey had to be undertaken; consequently, there was no irruption of peaceful possession by outside stalkers.

Of the herd which was released in Bushey Park there is little definite information available. According to Mr. Shrimpton, a son-in-law of Gordon Rich, the deer settled down and bred, and some of them, or their progeny, were captured in Bushey Park by Mr. Shrimpton and conveyed to Hawkes Bay, where they acclimatized and increased. In course of time

the deer from Bushey Park wandered on to the Horse Range, and in 1896, twenty-six years after their release, deer were to be found on those mountains. Sheep and settlement, however, seem ultimately to have driven them further afield. Probably they made along the Kakanui Mountains, into the interior, and joined the Morven Hills herd. The distance from Bushey Park to Lake Hawea, being not more than sixty miles in a direct line, is only a moderate journey for deer. Red deer are now sometimes seen near the Lindis Mountains, south of the Morven Hills.

It is frequently asserted with pride, by writers in New Zealand and Great Britain, also by the Otago Acclimatization Society, that "the Otago herd is purely Scottish and uncontaminated with park deer." I regret having to dissipate this very general belief. The original importation from Invermark could, I think, be rightfully regarded as of pure Highland blood, and for twenty-five years after their introduction into New Zealand they continued in this condition; but, in 1895, the herd no longer remained pure after the introduction of the Windsor Park-cum-German strain. In this year the late Arthur R. Blackwood, of the old shipping firm of McMeckan & Blackwood, who owned a sheep-run in the Hawea district, presented the Otago Acclimatization Society with two four-year-old stags which he obtained from the Melbourne Hunt Club, Victoria, at the time it relinquished its park. The Society repined because these stags had to be quarantined for sixty days after landing, and therefore "their services were lost to the herd this year." The Report of the Society continues: "Mr. Blackwood has two other young

stags secured in Victoria for the Society which will ultimately be put on to the deer country."

Blackwood, however, being displeased by the insistence of quarantine in Dunedin, did not fulfil his intention of sending the other two stags. The Society's report proceeds: "This infusion of new blood will be of great service to the herd." This crossing was, in fact, a great dis-service and was as unfortunate as unnecessary. The majority of antlers of those days were excellent; the culling of stags with bad heads was probably necessary, but there was no justification for adding foreign blood and, like some other crossings of strains in New Zealand, it was probably prompted by the unconsidered thought that an accession of new blood would be advantageous, whatever its quality. Some persons have, unfortunately, a crazy obsession in regard to new blood for deer forests, irrespective of its source.

Later in the same year, 1895, the late Hector McLean, a large run-holder, of Hawea, wrote to the Society as follows:

"Snow has driven the deer down to the flats and they are quite tame. I have never seen such heavy snow in June before. One of the stags brought from Melbourne took shelter in my wool-shed, where he was fed for a week. He has since taken shelter in a gully."

In its Annual Report of the 31st March, 1901, the Otago Acclimatization Society refers to one of these deer as having been found dead between the Timaru and Dingle creeks. It was assumed that this stag had been shot by mistake during the stalking season;

but Corporal Harold Hodgkinson told me that there was a rumour in the Hawea district that one of Blackwood's stags had been purposely shot as it was semi-tame and had become a nuisance to the settlers. On the death of this stag, the Acclimatization Society reported: "It is some satisfaction to know that the herd had the use of his services for five years."

The herd of the Melbourne Hunt Club was formed of red deer which were presented by H.R.H. the Prince Consort and reached Melbourne in 1862. At the same time Prince Albert also presented deer from the Great Park of Windsor to the Melbourne Zoological Gardens, to the late Thomas Chirnside of Werribee Park, Victoria, and to the people of Western Australia and New Zealand. The Melbourne Hunt Club supplemented their herd with deer from the Earl of Derby's Knowsley Park in Lancashire. Mr. George Chirnside, the present owner of Werribee, wrote to me recently stating that he had no definite knowledge in respect of the deer from Lord Derby, but he believed that they were park bred.

Through Blackwood's stags the Otago herd received a mixed strain of blood from Windsor Park and the Knowsley herd.

Knowsley, one of the "stately homes of England," in olden days spelled Knollesley, comprises about 2000 acres, and at one time it carried about 600 red and fallow deer.

I am informed by the Earl of Derby that it is believed the original herd at Knowsley came from Ireland, and that during the last thirty years deer have been received from the Park of Lyme, Disley, Cheshire; also that over twenty years ago there were several exchanges of red deer between Windsor Great

Park and Knowsley Park. Shirley, in referring to Knowsley, says :

“ This park is celebrated for the fine flavour of its venison.” And “ In the last century a custom was observed here of driving the red deer around the park, about midsummer or rather earlier, collecting them in a body before the house and then swimming them through a pool of water, with which the exhibition terminated.”

The next introduction of foreign blood to the Otago herd took place in 1898, when Captain, now Colonel, Montagu Cradock, author of *Sport in New Zealand*, presented two English stags to the Otago Society. The Society gave the older one to the Wellington Society in exchange for two young male deer from the Wellington district. As Cradock's deer reached New Zealand in winter time, the younger stag was retained at Birchwood Station by Mr. Hodgkinson until milder weather ensued, when he released him in the Longslip district.

In a recent letter Colonel Cradock informed me that of the two stags which he presented to the Otago Acclimatization Society, “ the younger one came from Raby Park, which has been carried on by the Dukes of Cleveland for centuries, and the other one from the almost equally celebrated herd at Duncombe Park, the seat of the Lords Feversham.”

Raby Park is near Darlington, Durham. Evelyn Shirley states that “ There were, in olden days, three parks at Raby Castle,” and quotes, “ Whereof too be plenished with dere.”

Duncombe Park, Yorkshire, at one time formed a portion of a very ancient deer park, but Duncombe

itself, according to Shirley, was enclosed only about two hundred years ago and comprised about 500 acres, and had a notable herd of about 600 fallow deer.

Colonel Cradock's recollection of the age of the stag from Raby Park is confirmed by a letter which I have received from Duncombe informing me that the stag sent to New Zealand was three years old. The breeding of the Duncombe herd is apparently not on record. I am, however, informed that there was a herd there about forty years ago, and at that time stags were introduced from the herds of Messrs. Knowles & Constable, but it could not be stated whether the herd is related to the Royal herd of Windsor.

In 1899 the Otago Society reported having received two young stags from the Wellington Society. These were apparently the two sent in exchange for the three-year-old stag from Duncombe Park. The Wellington Society, in its Annual Report for 1899, records that a full-grown stag was presented to the Otago Society in 1898, and it is stated that "further exchange between the herds in the North and South are contemplated to infuse new blood."

In 1917 a three-year-old stag was obtained from Otago and added to the breeding stock of the Paraparaumu deer park.

In the Report of the Otago Acclimatization Society for 1901, it is recorded :

"Several of the imported stags are to be seen at times on the hills and we would request sportsmen to have a good look-out for any stag with one half of an ear cut off, that being the distinguishing mark of any strange stag put into the herd by the Society. Mr. G. V. Chirnside, of Victoria, has kindly presented to the

Society three young hinds, which arrived safely at the Bluff on the 6th May, per s.s. *Monowai*."

Reference to official reports shows that not less than nine stags of park breeding have, at different times, been introduced into the Otago herds, and the impress of their park characteristics is very clearly indicated in some of the antlers which have been secured in the Hawea district during recent years.

It is obvious that the introduction of new blood into a herd of deer is an operation which requires much thought and careful consideration; it should not be effected in a haphazard and indiscriminate—because convenient—manner. Provided the type is right, the acquisition of new blood acts as a tonic in bucking-up a herd, and is likely to improve its general condition, but with the immense herds of deer in New Zealand, approximating 300,000 according to a statement recently made by the Government, the accession of a stag or two is like adding a few drops of water to a river. The number introduced should be large enough to have an early appreciable effect. At one time an Otago stag was sent to Nelson, where the local herd is deficient in those qualities of antler—length, spread, and style—in which the Otago deer excel. This, therefore, was an advisable and excellent introduction, although half a dozen deer would, of course, have had a quicker and probably better result. In turn a stag from Nelson was released in the Rakaia herd; by this action the Rakaia deer, with their great antlers, were diluted in quality with a strain noted for producing undersized, narrow, unattractive heads.

CHAPTER V

THE DEVELOPMENT OF RED DEER IN OTAGO

THE following quotations from the Annual Reports of the Otago Acclimatization Society, which refer to the Hawea herd, would appear to indicate that its members do not yet realize that the Otago herd, which they describe as "the finest herd of pure Scottish blood," has been for many years contaminated by the introduction of deer with park breeding:—

1920.—"The Council fully recognize the urgency of maintaining something like a standard for our valuable herd of pure Scottish blood."

1922.—"The members of your Council feel themselves faced with a serious problem to preserve this exceptionally fine herd of pure Scottish blood from deterioration."

1923.—"Our herd of red deer in the Hunter and Makarora is without doubt the finest herd of pure 'Scotch' blood now existent and no effort should be spared to secure its protection."

In 1913 the Otago Society imported six deer from Warnham Court with the avowed intention of adding

them to the Otago herd; but the Government suggested to the Society that, as this herd was "purely Scottish," it might be advisable to refrain from introducing into it park-bred deer. The Society courteously concurred, and disposed of the Warnham deer elsewhere. The members ought to have then known of the Blackwood, Cradock, Wellington Society, and Werribee Park introductions, as they are recorded in their own published Official Reports. Inquiry would have informed them that all of these foreign deer were descended from park deer, and such crossings having taken place and the mischief having been done, there was no valid reason why the deer from Warnham Court Park should not have been released in the Hawea district. On the contrary, they would have introduced a virile strain of blood with large antler-producing tendencies. The late Walter Winans, in his interesting book *Deer Breeding for Fine Heads*, says: "A cross from the Warnham deer improves most herds."

The Otago herd is in part already related to the Warnham Court deer through the crossing of deer from Knowsley Hall Park, and it is directly related with Windsor through at least three other different strains. New Zealand sportsmen may repine at the apparently unintentional mixing of park deer with the Scottish herd of Otago, but in doing this, man was only anticipating a natural occurrence, as there is no insuperable barrier to prevent the deer herds of Nelson, Rakaia, Poulter River, and Otago mixing together of their own volition. Good stags, presumably from the Otago herd, were seen many years ago well up the western coast over the main divide of the Alps, and it is known that deer from the Rakaia herd have crossed the main range from the eastern to

the western coast, and it is possible that some of them have already joined the Otago deer.

As an indication of the great distances that wild deer will travel when unimpeded by natural barriers, I have been informed by Mr. Guthrie Smith, author of *Mutton-Birds and other Birds of New Zealand*, and owner of Tutira Station, Hawkes Bay, that late in the 'sixties a stag appeared in the Mohaka country, Northern Wairua, near to his sheep-run.

At this time the nearest herd to this district was the Royal Albert at Carterton, Wairarapa, a distance of about 180 miles. This wandering stag must have traversed the Wairarapa Valley and worked his way through the "Forty Mile Bush," crossing several rivers, including the wide, deep, and swift Manawatu, and pursuing a long journey over rough country and through great tracts of virgin forest. On reaching the Mohaka district he joined a herd of wild horses, and remained in companionship with them for many years, but ultimately his antlers became entangled in the laine, or supplejack (*Rhipognum scandens*), and, being unable to free himself, he starved to death. His body was subsequently found by some Maoris.

The supplejack is a member of the lily family, and grows to lengths of 30 to 40 feet; it develops into strong, stout vines, and often entwines itself round trees and strangles them. I have seen the skeletons of two stags which had been entangled and held fast by the supplejack.

Long years of uninterrupted seclusion in the remote forests north of Lake Hawea permitted the red deer to multiply and thoroughly well establish themselves, but this freedom did not prove to be an altogether unmixed blessing. It certainly permitted many stags



HEAD OF RED DEER STAG KILLED IN OTAGO BY E. HARDCASTLE.

Points 14. Length 36. Spread 36. Span $27\frac{1}{2}$. Coronet $7\frac{3}{4}$.

Breeding :—{Blackmount } Invermark-Otago, and probably {Windsor.
 {Glenavon } {German.

[To face p. 52.

to attain years of maturity and develop very large and handsome antlers, but, at the same time, a good measure of crooked antlers were produced, and these begat their kind, and so the perpetuation of malformation proceeded until the herd was thoroughly well impregnated with the taint of a disease that caused, and is still causing, wry, stunted, and exceedingly ugly antlers. When, in 1897, Captain Cradock stalked at Hawea, he observed many stags with wrong heads, and that was one of the reasons that prompted him to present two English park stags to the Otago Acclimatization Society in the hope that the introduction of new blood would, in a measure, remedy the tendency of the Hawea deer to produce aberrant antlers. In 1905, Mr. Frank Wallace stalked at Hawea, and he, too, saw a large percentage of affected stags. Many of the local stalkers, including Mr. E. Hardcastle, of Christchurch, also observed the "dirty" and undesirable condition of the herds, which included malformed antlers, old and decrepit hinds, and weak, ragged-looking youngsters. He informed the Otago Acclimatization Society of the position, and the information caused the members very deep concern. There was a good deal of public correspondence in relation to the matter, and many theories were advanced to account for the cause of such pernicious results.

Some writers attributed the causes to :

"Unsuitable environment, overcrowding, and consequent shortage of food."

The country over which the affected deer range in the Hunter Valley and Dingle, Hawea, is high, rough, and practically limitless in its area. The deer are not confined in any sense and have already spread of their

own volition over hundreds of thousands of acres of mountainous land. There is snow grass in abundance, large quantities of native grasses, besides a plenteous supply of permanent plant, shrub, and tree life. There is no lack of pure fresh water, and the many thickly wooded valleys and gullies afford excellent shelter. The native trees and shrubs are not deciduous, so there is browsing all the year round. In mid-winter there is a good deal of snow on this high country, but the season is a short one, and the weather is not nearly so severe as it is in the Highlands of Scotland, where the trees are deciduous, and there is little or no shelter from the storms of winter. Apart from the alleged shortage of food in strictly restricted local areas, owing to an excess of deer, the environment of Hawea would appear to be practically ideal for red deer.

As regards overcrowding : If deer are too numerous in certain localities the condition is due to their family instinct, and not to lack of space. It is known that the female progeny of deer remain together in family parties, and some of them do not separate from their mothers even when they have calves of their own, thus several generations of females will herd together for many years. The stags, of course, go harem hunting during the rutting period, and afterwards it is usual for the matured stags to go off into seclusion, where they busy themselves shedding the old and growing new antlers. There are immense areas of wild country to the north, west, and south-west of the Hawea district in every way suitable for deer, especially at the Makarora and across the Alps in Westland.

I am credibly informed by several permanent residents and rabbiters that the deer to the north of Lake Hawea are usually in very good condition

immediately after the snow has disappeared from the mountain sides. This information does not confirm the allegation of shortage of food.

In its Annual Report for 1920, the Otago Acclimatization Society states :

“Stalkers report deer far too numerous, though all seen are said to be in good condition.”

DECADENCE OWING TO AGE

If the theory that has been advanced by some New Zealand writers, “that malformed antlers are caused by old stags with decadent heads consorting with hinds during the rut,” were correct, all the herds of wild deer in New Zealand would have numberless instances of malformation, as they all contain old stags whose antlers have gone back. Loss of vitality due to age prevents a stag reproducing his own antlers of the size grown by him in his prime, but this inferior condition is not reproduced in his progeny. One might as well argue that an old man who had lost his hair would beget bald-headed babies.

I can give a concrete instance which negatives this assumption of malformation resulting from old stags. On Te Awaite Station there was a big stag whose permanent haunt was in some heavy bush contiguous to Coal Creek Valley. At one time he had splendid antlers, and many stalkers tried to secure them, but he was wild and wary, and enjoyed years of immunity from their bullets. In course of time his antlers deteriorated until the brow and bay tines became mere knobs, although the beams remained thick and widely spread and the trays and tops good. He was a master stag, and in the season commanded an

extensive harem, and yet in that locality defective heads are practically an unknown quantity ; on the contrary, it is noted for well-formed, handsome antlers with long frontal tines or "rights."

Another cause of malformation of antlers and decadence of deer is attributed by writers to "close in-breeding."

If the twisting of antlers, the misplacement of pedicles and other aberrant conditions are due to in-breeding in the Otago herds, one naturally asks why similar defects do not develop to a proportionate extent in the Wairarapa herds. Their original breeding in New Zealand is in reality more circumscribed than is that of the Otago herds. The latter were established with two stags and six hinds, with the probability of accessions from the Bushey herd, and the addition of at least nine other stags of different blood strains, whereas the Wairarapa herds began with one stag and two hinds from Windsor and had no supplementation at the time of which I write.

I am strongly of opinion that where there is a wide range of country and when the original breeding is right and the supply of nutritious food is abundant, as is the case in New Zealand, members of the deer family will maintain themselves in a state of high quality without the supplementation of new blood, and that, in these circumstances, new blood is not necessary. Take the Maori as a concrete example. His progress presents a very striking instance of animal development in spite of the constant opposing tendency to deterioration by in-breeding.

Some five hundred years ago, a migration of a few hundreds of natives was made from an island, or islands, in the higher latitudes of the Pacific Ocean to

New Zealand. They settled in various parts of both islands and acclimatized well. Their food was generous of its kind: potatoes, wild birds, fruits, and fish. Their huts, of raupo and grass, were warm and draught-proof. Ailments, excepting those due to old age, were practically unknown. In these conditions they bred freely in close consanguinity, and developed a high standard of physical perfection. In 1769 and subsequent visits, Cook here found a numerous race of splendid people: big, strong, virile, athletic, and intelligent.

When the white man came along, and commenced to domesticate and inter-marry with the wild Maori, the deterioration and decadence of the tribes began.

In 1878, Darwin expressed the opinion that "the consequences of close inter-breeding carried on for too long a time are, as is generally believed, loss of size, constitutional vigour and fertility, sometimes accompanied by tendency to malformation." This statement was largely, if not altogether, accepted by zoologists and others as a definite fact, and belief in this presumption is fairly general to-day.

In more recent years, however, experiments have been made with members of the mammal family in inter-breeding with close relations under strict observation. In the earlier years of these experiments the animals developed physical defects, including sterility, the production of fewer offspring than the normal number, and also weakly, short-lived and malformed specimens. These results appeared to confirm Darwin's opinion; but it was thought that they might be due to—or influenced by—improper feeding. The diet of the animals was thereupon changed, with the view of affording greater resistance to defective tendencies. In course of time the improved quality

of food resulted in the decadent characteristics disappearing and a normal type of animal being produced, although breeding occurred along lines of close consanguinity for many years.

It is, I think, recognized that the close confinement of animals causes degeneracy, even if new and unrelated blood is introduced from time to time and their food is generous of its kind.

I have inquired very closely into the steady development of the several bison herds in the United States of America, and although each of these had very small beginnings, they are, in their wide range of country, progressing in a highly satisfactory manner, and instead of showing any ill effects of close breeding, they are actually improving in quality and normally in numbers.

The chamois of New Zealand, now numbering well over one hundred, originated in eight members, and each report which I receive states that those seen are healthy and vigorous-looking. The same satisfactory result is recorded in regard to the tahr, Manchurian and Virginia deer. Of the wapiti I cannot write with any certainty further than that they have acclimatized, and those already killed carried large and heavy antlers. The fallow deer which have in-bred in a wild state for half a century are, as herds, clean, healthy and vigorous.

Other writers assert that "malformation of antlers is caused by breeding from stags that had in some way injured their antlers."

Many stags have their antlers injured during their regrowth by getting them entangled in *laina* or striking them severely against a tree stem or bough, but it is, I think, generally known that a stag whose antlers are

damaged and made awry when in the inflammatory condition of reproduction does not transmit his temporary deformity to his progeny. In most instances a stag which casts an antler that has been deformed by injury, reproduces a perfect antler in its subsequent growth.

It is a medical fact that, should a male child have a permanently crooked arm, as a consequence of green-stick fracture, he does not, when matured, beget offspring with a correspondingly crooked arm.

Obversely, a bandy-legged man often begets bandy-legged children, and a parent born with a squint sometimes propagates squint. I know of a family which have, for generations, inherited a fairly wide strand of purely white hair in their otherwise dark locks. Not long ago I stopped a lady and gentleman in lower Regent Street, London, and asked the former if she were Miss Blank, from New Zealand. Smilingly, she said "No," and turning to the gentleman, continued, "This is my husband." I then asked: "Are you a daughter of Mr. Blank of New Zealand?" And she answered, "Yes, I am; and I know why you ask. It is because of my white strand of hair." In another family known to me, the first-born children have the peculiarity of rudimentary nails only on the first finger of each hand, their other nails being perfectly formed, and none of the subsequent children have the same defect. This feature has, I am informed, occurred with regularity since the time of their far-back great-grandparents. Such departures from the normal are surely evidence of individual physical characteristics being consistently transmitted from generator to offspring, and in many instances throughout very long periods of time.

It is generally admitted by scientists that such vagaries are the result of predisposing causes, and yet there are writers who dispute the facts of heredity, and deny that such abnormal features are—or can be—transmitted from parent to offspring although throughout the world there is abundant evidence of the active force of heredity, not only as regards mankind, but also in the case of other animals.

In the deer family it is particularly observable that the power, or force, of inheritance constantly re-asserts itself and causes the re-appearance of former features in a definite and pronounced manner. It is obvious that the regular recurrence of antler peculiarities, or aberrant growths, over very long periods, cannot be regarded as being altogether fortuitous, but they must surely be recognized as the result of atavistic tendency which is probably brought into definite operation by local conditions. The general types of antler in New Zealand as distinct from abnormal variations are, or rather were before so much interchange of blood occurred, as persistent in character in the deer herds of the Wairarapa, Nelson, and Otago districts as is the frizzy hair of negroes and the straight hair of Malaysians. The frequent reproduction in antlers of some special departure from the normal which occurs in certain well-defined localities cannot very well be regarded as being accidental, they are too consistently regular for such an assumption. It would, I think, be futile to expect that the introduction of new blood into a herd is going to extinguish defects of antlers unless the animals producing such defects are destroyed.

Timaru Creek, the Hunter Valley, and the Dingle are some of the localities where the Otago deer first settled and reproduced themselves into large family

parties. Most of them, the females at any rate, remained in these neighbourhoods until they died of inability to maintain life. Whatever defects occurred in these *hapus* (families) of deer were perpetuated *ad infinitum* until those persons in authority realized that forty years' neglect to cull out the old, weak, and otherwise unfit animals had caused deplorable results.

Where there is an admixture of ruminating and carnivorous wild animals in the same forest, as in Europe, Asia, Africa, and America, the old, weak, and unfit of the former order provide an easier prey for the latter than do the healthy, sensitive, alert, and swift, therefore the life of a deer, apart from the hunting of man, depends upon its physical condition and activity. Where there are no natural enemies of deer, as occurs in New Zealand, man must endeavour to eliminate the unwanted if he desires to attain a comparative measure of perfection in the herds.

In Northern America a large toll of fawns, calves, and kids is annually taken by wolves, the lynx, and native panther, and with the view of protecting game animals a continuous war is waged against these carnivora by sportsmen. The panther (*Felis concolor*) is particularly partial to the flesh of young deer. This animal has as many different reputations as his variety of names, and they are as numerous as the patches on a patch-work quilt. He is known as the American, yellow, or Californian lion, cougar, jaguar, catamount, puma, "Painter," and "Panter." Some hunters claim that he is bold and brave, and will approach man without fear; others say that he will lie in wait on a tree branch, which overhangs a pathway, and jump on to a man passing below. Again, he is accused of stalking man and rushing in when he thinks he has

the advantage. Others regard him as a "contemptible cur," afraid of man and dog. One evening when treading tenderly after a black bear, I saw that I was being followed by a panther. When I stopped, he stopped, and when I moved on he followed. I at once lost interest in the bear, and on getting into some thin brushwood, I stepped quickly to my left up-hill and lay down behind a small bush. Presently the panther came into view feeling his way very gingerly; my disappearance had caused him some incertitude, and he began to sneak about trying to pick up my taint; when he found it he crouched low and remained still for several seconds, then went back into cover and reappeared to the left. Not liking the outlook he again disappeared and came into view on my right. He was very undecided what to do, and after sniffing the air, he appeared to be somewhat reassured, and came forward slowly, moving a few feet very warily, then crouching against the ground. I was interested in watching this exhibition of wild animal craft, but, at the same time, somewhat doubtful and anxious as to what kind of character this particular panther deserved. As he lay extended on his belly with his nose a few inches from the ground, and his tail moving very slightly, I took a fine sight for the bottom of his chest and fired; he sprang up on to his hind legs and then fell on his right side dead. This experience seemed to show that a panther will stalk a man, but it was altogether discounted, not to say negatived, by the fact that near-by I found the carcass of a freshly killed Virginia deer in the direction which the panther was going.

With the view of culling the herds of undesirable stags and hinds, the Otago Society in 1906 invited



Photograph by A. Smith, Caversham.]

HEAD OF RED DEER STAG KILLED BY A. J. S. COWIE, AT MAKARORA,
1912, AFTER INTRODUCTION OF PARK BLOOD.

[To face p. 62.]

offers for shooting 600 deer in the Hawea district at 2s. 3d. per head. No contract ensued. In 1909 tenders were again called for killing up to 500 deer, and culling began in 1910. In 1913 another contract was made for killing 300 deer in the Dingle and Timaru Creek, and 300 in the Hunter Valley at 2s. 3d. per head. The time for completion of the work was fixed for the 30th September, but owing to snow having delayed the operations, this was extended to the 31st October, and a total of 601 deer were destroyed.

Corporal Harold Hodgkinson told me that in 1915 he had a contract to destroy 2000 deer of the Otago herd, at 2s. 6d. each, and that up to the 31st December he had shot 1254, and had later extended this number to between 1600 and 1700; from 1918 to 1922, 3447 deer were destroyed. From 1910 to 1922 the cost to the Otago Society for killing superfluous red deer amounted to £1557.

Apart from the multiplication of stags bearing aberrant antlers, a neglected forest must necessarily foster a proportion of old stags with decadent antlers, old hinds, and weakly calves. These calves that are born unduly early or late are, as a rule, weak, and do not develop into normal-sized adults. In a privately owned forest where there is close supervision and control all such undesirable animals are killed off, but there never has been, nor can there be, under present physical conditions, close supervision of deer in those comparatively vast, heavily timbered forests that are embraced in the Alpine region of New Zealand. There must be many thousands of deer that live their lives and die of old age therein that have not been seen by man. As I have shown, the Otago Acclimatization Society has made several efforts to clean the Hawea

forest of some of its undesirable units, spasmodic action perhaps, but costly. Intermittent action, however, cannot be satisfactorily effective, and if antlers of high quality are to be maintained, continuous activity is not only advisable but necessary. As the deer stalking attracts wealthy visitors to New Zealand, the Government of the Dominion is directly concerned in the condition of the herds, and if the combined Acclimatization Societies were to make a representation to the Government, it might be arranged that the services of one or two experienced foresters would be obtained to maintain a general oversight of all the deer herds of New Zealand. Such men could help to destroy unsuitable and excess deer and those that wander into settled farming districts, and also act as Forest Fire Wardens. They could advise the Government where deer should be liberated, and, what is more important, where they should *not* be liberated, and where and when they should be killed off. They should be men who understand deer.

Some of the destructive activities of the Otago Society in the Hawea forests were carried out under the guise of "killing barren hinds," and there appears to be an idea prevalent in New Zealand that yellow-coloured, sleek-looking hinds are barren. This assumption is, of course, erroneous: barrenness is not indicated by colour, while sleekness is usually due to good feeding and shelter. Hinds which have calves to nurture are likely to be poorer in condition and rougher in coat than others, but absence of calf does not necessarily imply infertility. As a matter of fact, hinds of breeding age are usually fertile, and those seen without calves have, in all probability, lost them by some mishap. Many newly-born calves die,

especially if dropped during a severely cold snap. It is also likely that wild pig are responsible for the destruction of some newly-born deer calves as they are of lambs.

I am informed that in some of the Highland forests the loss of newly-born calves from various causes approximates 50 per cent. It will, therefore, be readily seen that there is room for grave mistakes in the practice of killing off hinds simply because they have no calf at foot, or are fat and sleek in yellow pelage.

On speaking to Millais on this subject he expressed the opinion that hardly any hinds are infertile, and said that Donald MacIntosh, a most observant and experienced stalker, of Ben Alder, Scotland, had told him recently that when gralloching hinds which he had killed in winter, he had never found one without a foetus in the womb. MacIntosh kills about one hundred hinds each winter. Tom Speedy, in *Sport in the Highlands and Lowlands with Rod and Gun*, quotes the head stalker at Strathcanon as having stated that he had never found a killed hind without a foetus.

Experienced foresters who are brought up in and reside in deer forests of restricted area, and who see their deer frequently, cannot always determine which hinds, if any, are barren. How much more difficult, if not impossible, must it be for men to go into a great expanse of wild, rough country in New Zealand and, on first sight, pick out those which they consider to be barren hinds!

As I have previously mentioned, hinds are in calf from March–April until November–December, and on humane grounds they should not be shot when pregnancy is well advanced.

CHAPTER VI

THE ORIGIN OF THE OTAGO RED DEER

THE aberrant condition of some of the antlers in the Hawea district was malformation pure and simple, resulting in ugly excrescences of bone bearing no resemblance to normal antlers. The "Cromie" antlers of Jura, and a few which were got in the Wairarapa, have a measure of attractiveness notwithstanding their abnormality, but most of the "malforms" of Otago are simply hideous travesties of Nature's noble standard.

In 1908 twenty skulls bearing malformed antlers were sent from the Hawea district to Wellington for examination by Mr. J. A. Gilruth, Chief Veterinary Officer of the Government and more recently Governor of the Northern Territory of Australia. He afforded me the opportunity of examining them with him. All of the antlers were weak, stunted, twisted, and ill-shapen. Mr. Gilruth expressed the opinion that their aberrant condition was congenital in origin. He turned them over to me, and I, in turn, handed them to the Dominion Museum.

I have always held the view that the defective antlers of the Hawea forests were due to the hereditary transmission of a defective blood strain, and that the affected stags inherited a condition of congenital defect which caused an unnatural and premature constriction

of arterial flow to the antlers during their growth, thereby resulting in the abnormal development.

With this conviction in my mind, I decided that the cause should be sought for outside of any local conditions, and when I came to Great Britain in 1909, I pursued my investigations in an endeavour to trace the breeding of the Otago deer. My first inquiries were of a general nature, and I learned that the malformation of antlers is not of common occurrence in Scotland, although a proportion of "Cromie" or crooked antlers occurs, especially among the red deer of the Island of Jura.

I knew of no connection between the deer of Jura and those of Otago, so I did not, at that time, pursue my inquiries in that direction, but confined them to the Invermark deer. As the Earl of Dalhousie, who gave the deer to Otago, was at the war, I wrote to the Countess, and in response to my inquiry she was good enough to inform me that there were few, if any, stags on Invermark at any time with malformed antlers. Subsequently, through the kindness of the Editor of the *Scottish Field*, I got into communication with Mrs. Reid, of Auchmull, who is a daughter of the late Archibald Campbell, formerly head forester of Invermark. Mrs. Reid has very intimate knowledge of matters pertaining to the Invermark deer, and she confirmed the opinion of the Countess of Dalhousie by informing me that she believed malformed heads were unknown in that forest. This information somewhat upset my conclusions, and apparently brought me to the end of my trail; but persisting in the pursuit of local knowledge, I carried my inquiries still further in an endeavour to ascertain the breeding of the Invermark herd. By the kindness of those concerned, I

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was permitted to examine the Forest Register of Invermark, and therein I found the following entries :

“ In July, 1853, 20 fawns were brought from the Marquis of Breadalbane’s to Mark Forest.”

“ In October, 1853, 16 fawns were brought from Lord Henry Bentinck’s. Mark : left ear cropped.”

“ In 1870, the first red deer sent to New Zealand were given by the Earl of Dalhousie from Mark Forest and milked * by me at Gleneffack.

“ ARCH. CAMPBELL, Forester.”

The forest referred to herein as the “ Marquis of Breadalbane’s ” is the famous Black Mount of Argyllshire, and “ Lord Henry Bentinck’s ” is the forest of Glenavon, Banffshire, owned by the Duke of Richmond and Gordon, Bentinck being, at the time referred to, tenant of Glenavon.

Archibald Campbell was at one time a stalker on the Black Mount, and by a friendly arrangement between Lords Breadalbane and Panmure he was transferred to Invermark, where he became head forester.

In answer to my inquiries, Mrs. Reid informed me that “ the calves for New Zealand were captured in May-June, 1870, and that her father had sixty taken, but their death-rate was very heavy, and this was attributed to the unsuitability of the cows’ milk which was given to them. Seventeen calves only survived, and these were all sent to Dunedin, Otago.”

The heavy loss of calves was probably due to gastro-enteritis, as in ordinary circumstances they thrive well on cows’ milk.

* Were given milk.—D.

Donald Cameron, who was a ghillie on Black Mount, and assisted Archibald Campbell, has written to inform me that

“ the calves when caught were taken to the residence of the head stalker, Archibald Campbell. Here they were given cows' milk. At first they were wild, but soon became tame and would follow the men and women about just like dogs. Before being sent off to New Zealand the calves were fed on hay, turnips, and cake.” Cameron states that he heard “ they were very dull on board ship until they arrived within 70 or 80 miles of New Zealand, when they got very frisky and played about quite happily.”

The information which I obtained in regard to the origin of the Invermark herd opened a new avenue for inquiry, and I thereupon again wrote to Mrs. Reid, asking whether she had heard any talk of malformed antlers in the Black Mount herd. In answer she stated that some years ago she paid a visit to Black Mount, and on being shown through the forest lodge there one room in particular interested her because a large number of malformed antlers were fixed around the walls, and she expressed her belief that this collection was made by the Marchioness of Breadalbane, and that most of the stags had fallen to her rifle. This information prompted me to write to the late Lord Breadalbane. He appeared to be very much interested in the matter, and wrote me several long and interesting letters in relation to the question of malformation and the deer of Black Mount.

Lord Breadalbane said that he could not confirm the statement that Invermark had been stocked with red deer from the Black Mount. He went on to say,

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however, that "old Lord Dalhousie and the late Marquis of Breadalbane were intimate friends, and used to shoot a good deal with each other"; also that "Peter Robinson, one of his old foresters, had stated that he had sent calves from Black Mount to Lord Dalhousie."

I was able to trace a record of red deer from the Black Mount forest having been sent to the Island of Jura, and I inquired of Lord Breadalbane whether any deer from Jura had been transferred to the Black Mount. He informed me that it was not within his knowledge that any such transfer had ever been made, and he continued :

"With regard to malformed antlers, in Black Mount, as in most other large forests, one comes across all sorts of curious heads occasionally ; in fact, when I had Black Mount in my own hands I laid myself out to kill all such stags that I could possibly do and made a collection of the same. The result was that when I gave up the Black Mount and went to my present place, Craig, there were very few malformed heads left. I think my collection is rather unique, for I have a head with no horns, then one with a horn but only one point ; then two horns and only two points, the next with three points and so on up to twelve. From my experience of the Black Mount and other forests I should say there is no predominance of malformed heads."

The statements of Lord Breadalbane establish the fact that a condition of malformation did obtain in the Black Mount herd, although, doubtless, in a minor degree ; but in all probability, it might have developed there to a serious extent as it did in Otago, had he not "laid himself out to kill all such stags."

Millais, who has had wide experience in deer stalking, informs me that he stalked on Black Mount for five seasons, and expresses the opinion that malformed heads are rather less common there than in many other forests.

Nevertheless, I think I may claim that my assumption of hereditary inheritance of malformation in the Otago herd has been fully justified by the information which I have obtained in relation to their origin and the existence of a malformed condition, or tendency, in their progenitors. The taint being in the blood, it would be likely to make its appearance any time and anywhere, and many years' neglect to destroy stags that produced malformed antlers, as actually occurred in Otago, would cause the aberrant condition to develop until it attained very serious proportions.

A striking instance of pertinacity of inherited defect of antler which came to my notice may be considered worthy of record. A fine stag, carrying fifteen points, had on his right antler a long posterior tine ending in forked points. In 1896 he was shot, but from that time until the present day, numerous stags have been killed in the same district each carrying a similarly formed and placed extraneous tine.

During the twenty-five years—1870 to 1895—the Dalhousie herd developed along sound lines, producing splendid antlers of the type that is characteristic of the indigenous red deer of the Highlands of Scotland, their beams well bowed, approximating 40 inches in length with a spread equal thereto, and with long and evenly placed tines. The first men to enjoy the privilege of stalking these grand deer were the local sheep and cattle farmers, their sons and station hands. Early in the nineteenth century word

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filtered from the backwoods country of the Hawea Mountains to outer civilization that Messrs. Harold and Con. Hodgkinson, whose father is the owner of Birchwood Station, had obtained some very fine examples of antlers, and when preparations were being made for the holding of an International Exhibition at Christchurch, New Zealand, in 1907-8, I arranged to secure for the Government Tourist Department's Court an exhibit of deer heads from the Wairarapa, Nelson, and Otago, comprising one hundred in all.

Thirty-five of the red deer stags' heads were from Wairarapa, thirty-three from Otago, and sixteen from Nelson. This exhibit afforded an opportunity for making comparisons of the heads from the three different forests. The types of antlers from each of these forests were so consistently distinct that no one with even a rudimentary knowledge of the subject would have made any mistake in classifying them. Of this exhibit Mr. Frank Wallace writes in his book *Stalks Abroad* :

"I was very fortunate in visiting New Zealand when I did, as at the Exhibition held in Christchurch, were heads to the number of a hundred, collected from all over the Colony. They were exceedingly well arranged, and included some magnificent specimens."

The effluxion of time has not diminished the antler-producing quality of the Dalhousie herd, as is evidenced by the very fine head obtained by Admiral Viscount Jellicoe at the Makarora, in 1923, the great royal of Captain Carlyon, 1921, those of Major Robert Wilson, Captain Carter, Colonel Studholme, Messrs. J. Forbes, Hardcastle, Faulks, and others. More large antlers

are secured nowadays than even in the days of twenty years ago, when there were fewer stalkers and the deer had better chances of reaching full maturity. Notwithstanding the prevalence of malformed antlers in certain restricted areas of the Hawea forests it can be confidently asserted that the red deer of New Zealand are, generally speaking, healthy and vigorous, and the producers of unusually large and very handsome antlers, a credit alike to the land whence they came and the land that nurtured and developed them.

The mixing of stags of park descent with the Dalhousie herd has, however, resulted in the occasional production of antlers that are distinctly park type in feature. Others display a definite commingling of both Scottish and park-like features, long, thin, curved "rights" of the Scot with heavy, rough, and palmated tops of the park breeding.

The form, too, of some of the skulls also differs materially, the broad face, curly hair and heavier-looking head of the Wairarapa breeding and its German strain being found in the same herds with the lighter, narrower, and more alert-looking heads of Scottish extraction. In the Wairarapa herds antlers are often produced bearing a marked similarity to the antlers of the first stag released there in 1862. These have long beams, notable for their pronounced cylindrical form, and above the tray tines there is an even fork on each beam, then comes an extension of the beam and another pair of evenly forked tines as terminals. Until about twenty years ago, this type of antler was peculiar to the Wairarapa deer, but lately a number of antlers of identical form have been obtained in the Otago herd, in my opinion conclusively showing a result of the introduction of Windsor Park

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blood. The antlers obtained by Mr. Preston Cameron in 1912, which are illustrated in this book, are typical of those Wairarapa antlers to which I have referred. This type of antler bears a strong resemblance to the configuration of many antlers from the Carpathian red deer, and suggests a common ancestry. It is, I think, likely that a strain of Carpathian blood was introduced into the Windsor herds by the red deer imported from Germany, as it is well known that some of the German Emperors and Barons introduced Carpathian stags into their herds for the purpose of increasing the size of antlers.

Some of the Otago stags have produced antlers with exceedingly large tines, and very heavy palmated tops almost elk like in appearance. It would be interesting to know which breed of deer will ultimately dominate the type of the Otago herd, the indigenous Scottish, or the English-cum-German park deer with its probable *soupeçon* of Carpathian blood. Some writers assert that a *change of food* and *conditions* cause the development of special type of antlers. How much time is required for such changes to become evident is not stated, but the deer sent to New Zealand experienced a radical change of food, as the plant and tree life there is entirely different from that of England, Scotland, and America. The climate, too, is more mild and equable. In tens of thousands of years the moose of America has developed a greater wealth of antler than his father, the elk of Scandinavia, but one cannot say that they are of a *special* type. The experience of New Zealand does, however, show that Scottish stags which come from a strain of deer noted in previous centuries for producing large antlers, but which owing, it is assumed, to an insufficiency of food



Photograph by Mahon and Muir, Timaru.]

HEAD OF RED DEER STAG KILLED BY PRESTON CAMERON AT
LAKE OHAU.

[To face p. 74.]

and other adverse conditions, had deteriorated in antler production, were when transported to another country with a less vigorous climate and an abundance of nutritious food re-vitalized, as it were, and again produced antlers as large or even larger than their progenitors of the Cave Man days. I am of opinion that good feeding, without any interruption of its course, and an equable and mild climate are not in themselves sufficient to produce consistently large antlers unless the breeding of the deer predisposes the stags to develop them. For instance, I believe that Mr. Charles Lucas would not achieve such great results at Warnham Court were it not that the tendency to produce large antlers is inherent in the blood of his deer and its development is encouraged by selection, elimination, and suitable feeding. Lacking this hereditary quality, or disposition, I think that nutritious food, shelter, and warmth would not promote a great wealth of antler. The experience in regard to the red deer of Nelson support this conclusion.

It seems to me that New Zealand with its fine climate, wealth of vitamins, general suitability for ruminating animals, and absence of wild carnivora provides an excellent field for testing many questions relative to the science of zoology as pertaining particularly to ruminating animals. The systematic tabulation and publication of reliable information regarding the changes of life as affecting imported animals, not only of deer, but also of species other than ungulates, would be of considerable interest to zoologists and of general benefit to science.

CHAPTER VII

NOTES CONCERNING THE RED DEER OF INVERMARK, BLACK MOUNT, AND GLENAVON FORESTS

As the important herd of red deer in the Hawea district and on the south-western side of the Southern Alps were bred from deer received from Invermark, Forfarshire, and they in turn came from the forest of Black Mount in Argyllshire, and Glenavon in Banffshire, I give some particulars of these forests.

INVERMARK

Lord Dalhousie's principal seat is near Brechin, a town that is distinctly noted in Scottish history. In 1303, Sir Thomas Maule, a forbear of the Dalhousies', held his castle against the assaults of Edward I., until put out of action by a stone propelled from a catapult. "David of Brechin" was a thorn in the side of Robert Bruce, and one of his most bitter enemies. Near Brechin there still exist the remains of two prehistoric hill forts, a puzzle to present-day archæologists.

The Arms of the County of Forfarshire include the representation of a stag's head, indicating the importance with which deer were regarded there in the life of the people. A castle, too, is included, suggestive of close association between the landowners and deer stalking. The Dalhousie family (pronounced Dalhoosey) was in existence half a century earlier than

the Norman Conquest, and includes the Houses of Maule, Voloignies, Brechin, and Barclays of Brechin, united in the Earldom of Panmure.

Invermark Forest comprises about 20,000 acres of open hilly country with very little wood for cover and no sanctuary for the deer. It is near to the Royal forest of Balmoral.

I am informed that prior to 1853 Invermark Forest contained one old hind only, a wanderer from an adjacent forest. In July of that year, twenty red deer calves were obtained for Invermark from the famous forest of Black Mount, Argyllshire, and in October following sixteen calves were received from the forest of Glenavon in Banffshire, which belongs to the Duke of Richmond and Gordon. These two lots of thirty-six calves were probably born during the previous May-June. On the 6th September, 1854, Lord Panmure opened the stalking in Invermark Forest by stalking on Corriebræ and Little Cairn of Lee, and secured a stag of thirteen stone, and on the 19th September, 1861, he stalked on Invermark as the Earl of Dalhousie, having succeeded to the latter title in 1860.

Fox Maule (afterwards Dalhousie) often stalked with Landseer in Invermark Forest, and Breadalbane and Landseer stalked together on the Black Mount. It is definitely known that several of Landseer's famous paintings were based on incidents which he had witnessed on Black Mount, therefore some of the progenitors of the Otago herd, doubtless, formed subjects for Landseer's brush when he depicted those fat, large-antlered monarchs and their meek, sleek-looking spouses. The original drawings of "The Stag at Bay"—which records a true incident of the

Black Mount Forest—"The Challenge," and "The Sanctuary" were, with others, made with charcoal on the walls of Adverikie Lodge, Inverness-shire. Fortunately, these had been photographed before the lodge was destroyed by fire. Millais, when a boy, had the distinction of sitting on Landseer's knees and incidentally showing the great animal artist how a stag *should* be drawn. Later on Millais met Landseer at Stoke Park, whence deer were afterwards sent to Rakaia, New Zealand.

The Forest Register of Invermark records that from 1854 to 1873, 764 deer were killed on Invermark, their average weights being 13 stone 1½ lb.

The widest head secured in Invermark Forest is a 9-pointer 35 inches in length, with an inside span of 38½ and a beam of 4¾ inches.

It would appear that a Patron Saint of Ireland, or one of his descendants, visited Invermark, as the Forest Register shows that on the 14th August, 1870, the year the deer calves were sent to New Zealand, "St. Patrick stalked the Burn o' Backie," but without luck. The Duke of Buccleuch must have met a cross-eyed man on his way to the forest, as he stalked there on seven days without killing a deer. The Duke of Edinburgh, on the other hand, must have stroked a hunch-back, as he was fortunate enough to secure eight stags.

In his book *The Deer Forests of Scotland*, Grimble records that :

"The stags of Invermark do not run very large either in body or horn and to judge those of the present by the horns of their ancestors the deer of to-day" (1901 when he wrote) "must have deteriorated very

much during the last twenty or thirty years, for the old heads are finer in all respects than any that can now be seen in this forest."

In 1913 a splendid exhibition of "British deer heads," arranged by Frank Wallace, was held in London under the auspices of *Country Life* newspaper. Included therein were two heads from Invermark, in which I was much interested. By courtesy of the Editor, I am able to reproduce photographs of them in this book. It is recorded that the stag carrying the 9-point head as illustrated, was killed by the Earl of Wemyss, 26th August, 1864.

These are handsome, symmetrical, widespread antlers, and prototype of many of those since produced in Otago.

The 13-pointer is uneven, of no special size, and cannot be regarded in any way as a stylish head.

It will be observed that both of these heads were obtained prior to the calves being sent from Invermark to New Zealand, and therefore they may have had some influence in directly determining the types of Otago antlers, for in the Otago forests are produced some of the handsomest and, at the same time, ugliest antlers obtained anywhere.

The Forest Register, which appears to have been kept with care, contains an entry that the Earl of Wemyss stalked on Invermark on the 8th, 9th, 10th, and 11th September, 1863, but does not record his having been there in 1864.

Grimble tells of a 14-pointer being shot in Invermark Forest by Sir Richard Musgrave, and says:

"He celebrated the event by 'remembering' all the men who were with him at the time, and presented

the forester's sister with a new dress, usually donned on Sundays. 'Miss MacGregor and her 14-pointer gown' was the subject for envy and admiration for the good folks at the kirk in the glen for many years afterwards."

BLACK MOUNT

The Black Mount deer forest is one of the more notable in Scotland, and the late Marquis of Breadalbane informed me that it has been the home of wild red deer from time immemorial, and that the calves sent to Otago had an unimpeachable ancestry, having descended from the indigenous red deer of Scotland. What is believed to be the first record of a shooting lease is contained in the Black Book of Taymouth, wherein it mentions a tack, or lease, by Colyne Campbell to Archibald Campbell of Glen Orquhy of the land and forest of Bendoran and pertinents for nineteen years from 1567. Campbell is the family name of the Marquisate of Breadalbane, and Bendoran is part of the Black Mount Forest. In the same book it is recorded that King James was much interested in a white hind which was at Coiriche Bà, at one time a part of the Black Mount Forest. The record is set forth as follows :

"Upon the thettene day of February, anno 1622, the king's majesty send John Skandebare, Englishman, with other twa Englishmen in his company, to see ane quhyt hynd that was in Coiriche Bà, upon the 22nd day of February, anno 1622."

Of Lord Breadalbane's deer forest Millais, in *British Deer and their Horns*, says :



Country Life photograph.]

ANTLERS OF STAG KILLED INVERMARK FOREST, 26TH AUGUST,
1864, BY THE EARL OF WEMYSS.

Points 9. Length 35. Span $38\frac{1}{4}$. Beam $4\frac{3}{4}$. Stag 16 stone.

[To face p. 80.

“Away to Black Mount. Here is a deer forest worth talking about, the largest I believe in the North. Covering as it does some 90,000 acres of the fair country of Argyle, surely nowhere else in all Scotland is grander, wilder or more exquisite scenery to be found.”

“The Marquis of Breadalbane is a keen deer stalker; it is the one sport that he really loves, and ‘like Master, like Man,’ his foresters are as fine and hard-working a lot as any to be found in the North. Every man on the place knows his work and does it; the game is plentiful and the whole entourage a scene of wildest beauty.”

Prior to 1881 the deer of Black Mount produced large-bodied stags as well as big heads, but since then there has been a falling off in both of these qualities. In 1885, Lord Breadalbane transferred some deer from Black Mount to the woods of Taymouth, Perthshire, and some of their descendants have been killed weighing up to 24 stone (3 cwt.).

I find it recorded that a stag which was shot in Otago weighed 600 lb., or over 42 stone, presumably gross weight. I cannot, however, get any verification of this statement, and I am very doubtful of the accuracy of weights of New Zealand stags quoted in newspapers. Whole stags are very rarely, if ever, taken from the mountains into the headquarters of stations, or to townships where weighing appliances are available. I think it likely that the quotations which are made from time to time are merely estimates.

There does not appear to be any fixed rule for estimating the weight of stags by measurement; neither *The Field*, *Country Life*, nor the late Baillie-Grohman could supply me with a method, but using

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the formula for estimating the weight of dead cattle, I find that a New Zealand stag which I very carefully measured as he fell would have weighed approximately 34 stone, or 476 lb.

English Park stags of unusual size are recorded as weighing 520, 530, and 540 lb.

Scrope says :

“the stags of Black Mount exceed those of most of the neighbouring forests in point of weight and may be estimated at an average of from 16–17 stone imperial, sinking the offal, and they are frequently found to weigh 18–19 to 21 stone. Their heads likewise are large in proportion, being of a much more vigorous growth than those of the Atholl or Mar deer.”

The Marchioness of Breadalbane, authoress of that very delightful book on deer stalking, *The High Tops of Black Mount*, is an enthusiast in matters pertaining to red deer, and a first-class rifle shot. She has a record of which any stalker would be proud, including an 18-pointer, which she obtained on Ben Toaig ; also a very good 13-pointer with a span of 37 inside. On one occasion Lady Breadalbane killed six stags in six successive shots in about six minutes, all of them dropping dead “in their tracks,” truly an excellent shooting feat.

Parts of the Black Mount are fairly high, steep, and rocky ; the two highest hills are Stob Ghabhar, 3,563 feet, and Ben Staray, 3,541 feet. The stags are famed for the wild beauty and large size of their antlers. It is doubtless from this forest that the strain came which has made the heads of the Dalhousie herd in Otago world-famous.



Country Life photograph.]

ANTLERS OF STAG KILLED INVERMARK FOREST, 27TH
AUGUST, 1856.

Points 13. Length 35. Span 22. Beam $4\frac{3}{4}$. Stag 17 stone.

[To face p. 82.

The Black Mount has the honour of having produced a Gaelic poet of its own in the person of Duncan Ban Macintyre, who was born in the beginning of the eighteenth century. He was a keeper of deer at Coiriche Bà. One of his poems "Spring in Bendorain," treats of "the regal deer." He was a musical laddie, and sang his own songs. In his old age Macintyre forsook the hills and resided in the Cannongate, becoming one of the old town guard of Edinburgh. A monument to his memory stands between Dalmally and Inverary.

Scotland has been prolific in producing poets. Maybe the majestic mountains, gloomy glens, lovely lakes, and rippling rivers have promoted that ideality of thought which finds expression in poetic phrases. New Zealand, which in some physical respects resembles Scotland, has been peculiarly deficient in poets. Pioneering and Parnassus do not apparently harmonize. Perhaps in days to come, with the greater development of the arts and leisure time for musing, the goddess of poesy may place her mantle on the shoulders of a New Zealander of Scottish descent. Two of the more important poets so far produced were Dommett, an Englishman, and Bracken, an Irishman. The former wrote "Ranolf and Amohia," a classic; the latter was the author of that human little poem "Not Understood."

In Scotland, especially amongst those who know the deer, the name of *Domhnall Mac-Fhionnlaidh Nan Dan* is well known as a celebrated Gaelic bard and deer stalker, one who combined great skill in hunting with true art in poetry. He lived in the days of James VI., and spent his life mostly on the hills of the Highlands. On one occasion he was found on Black

Mount, apparently uninvited, as with bow and arrows he took illicit toll of the deer. Sir Duncan Campbell, known to Highlanders as *Donnachadh dubh nan Caisteal* (Duncan of the Castles) had him captured and taken prisoner to Finlarig. It was intended to put him into a dungeon, but when Sir Duncan learned that he was a brother poet, he offered to forgive him if he could put an arrow into a deer's head at a given distance, as he was reputed to be capable of doing. Donald accepted the offer and was taken to the hills to find a deer. A hind was duly found, and he stalked her until he attained the pre-arranged distance. She was quietly feeding, so Donald gave a short whistle, and when she raised her head and gazed in inquiry, he let fly an arrow and struck her in the middle of her forehead, killing her instantly.

Sir Duncan then had Donald conveyed to one of his castles, where he remained an honoured guest for a year. He then, at his urgent request, returned to Fearsaid. Duncan of the Castles, or the Black Knight, then gave Donald permission to kill deer within his marches. In his passage along the years when he could no longer follow the deer in their high haunts he moved to Loch Treig, and, with his daughter and greyhound, resided in a turf bothan, or hut, whence he watched the bonnie red beasties as they roamed beyond the reach of his limbs.

One quiet evening in autumn the old hunter saw some hinds wandering near his home, and presently they were followed by a mighty stag. His daughter heard him breathing strongly, and arose to attend him. "Softly, give me the bow," he muttered. He motioned her to quietness, and when his old friend the trusty yew bow was fetched, he, still keeping his dim-

ming eyes fixed on the stag, said, "Bend it." She smilingly answered, "There is not a man in Loch Aber may do that!" "*Feuch mo Nighean*" (Try, my daughter), and placing the bow at the back of his leg he asked her to exert all her efforts; but the wood remained rigid. Donald had been noted for the great strength of his arms, and here, in this moment of great intensity his relaxing muscles responded to his great desire, as with a combined effort by his daughter and himself the bow was bent and the cord slipped over the horn. "Give me the arrows," he said; and she put the quiver-ful on his knees. He chose one, felt its sharp point, smoothed the feathers through his fingers and fitted the shaft to the tensely-drawn string. Then, drawing back from the window, he raised the bow, drew the arrow back until its head almost touched it, the cord was slipped from his fingers, there was a sharp twang, a flutter, a breathless pause, and the hart leaped up and fell on the grass, dead. Old Donald lay back in his chair smiling, his daughter embraced him and shed tears of joy. "So, Mhari," he said, "it is the last shot, beannuich Dia! I did not think to have done its like again."

Donald died at Inver Lar at a very old age, and at his own request he was buried wrapped in a deer's hide, upon the brow of Cille-Corell, and there "the deer have couched on his bed," and "the little kids have rested by his side."

GLENAVON

Having ascertained that Glenavon Forest, from which calves were sent to Invermark in 1853, was owned by the Duke of Richmond and Gordon, I wrote

to His Grace, and the following are extracts from his reply :

“ I have never heard that there was any number of malformed heads amongst stags on Glenavon or Glenfiddich ; there are always a few damaged antlers to be seen caused by deer getting hung up in wire fences when the horns are soft and have not done growing. Another occasional cause is bullet wound ; I have known of a case of a malformed head with a bullet in the stag’s testicles.

“ I have a horn here this shape (figured) which shows clearly that the horn was bent when soft, the scar on the horn at the bend being very plain.”

The Duke asked me whether a hummel stag had ever been bred in New Zealand, and stated :

“ In most forests there are one or two and they generally grow into heavy beasts ; one of the heaviest stags I ever killed was a hummel, and he kept as many hinds to himself as any horned stag and very few stags dared to tackle him ; when they did they got the worst of it. They are good fighters and often defeat antlered stags in combat.”

I was able to inform him that hummel, or hornless stags, have appeared in New Zealand in both the Northern and Southern forests.

I have definite information of a hummel stag in Scotland being enclosed during the rut with some hinds. Three male calves were produced, one of them was, like his father, a hummel, another one being a unicorn with no sign of horn growth on the left pedicle, while the third had both antlers malformed. This seems to indicate that a hummel stag is in the same

category as stags with malformed antlers in respect of being likely to produce male progeny with antler deformities as well as without antlers.

The forest of Glenavon is in Banffshire, and comprises 40,000 acres of high, rough and rocky country, Ben Macdhui (4,296) being the highest portion. The forest takes its name from the Avon river, which flows through it for about twenty miles. At the foot of Mount Cairn Gorm is Loch Avon. Grimble says :

“ Near to Loch Avon is the celebrated shelter-stone in which a dozen men can rest, and here, in the days of Highland feuds and cattle-lifting, many good Highlanders intent on bloodshed or pillage passed their nights.”

The Duke of Richmond and Gordon also owns the forest of Glenfiddich—25,000 acres—its highest mountain being Corryhavve, a little over 2,500 feet. The Fiddich, a tributary of the Spey, runs through the forest.

A striking example of the effect of food and environment on antlers is afforded by a comparison of the Black Mount, Invermark, and Otago deer. Here we begin with indigenous wild deer in a mountainous region of the Highlands, where food and shelter are above the average, and as a consequence large stags with good antlers are produced. Stock is sent thence to Invermark, which has a lesser range of land and practically no forest trees for shelter, and the antlers, with few exceptions, are poor. Stock from Invermark is sent to the rich pasturage and milder climate of New Zealand and in from fifteen to twenty years large, heavy stags are developed and antlers secured which for size and beauty of form rival the best heads

ever obtained anywhere, and comparing favourably in weight with those obtained in the Highlands of Scotland many centuries ago.

A question of considerable interest also arises in this connection. Why should malformed antlers occur in the Black Mount herd and in their progeny of the second generation bred in New Zealand, but not in the intervening herd, of the first generation, transferred to Invermark? This result points, I think, to the difficulty of immediately detecting and killing all mis-shapen heads in a forest of the size and nature of Black Mount, and the impossibility of doing so in New Zealand; whereas Invermark being small in comparison, clear of forest trees and having fewer deer, those stags which had imperfect antlers could and would be readily observed and promptly shot and the disease thereby prevented from spreading, excepting in a modified way, through the hinds.

The calves from Black Mount and Glenavon reached Invermark in 1853, and seventeen years later some of their offspring were sent to New Zealand. This period is not longer than the normal life of deer, and it is therefore quite possible that some of these calves were actually got by stock which came from Black Mount and Glenavon.

Notwithstanding the "dirty" condition of some portions of the Otago forests, the fact remains that to-day a greater number of large heads of excellent form are being obtained therein than at any previous period.

In making comparisons between Highland deer and those of Otago which came primarily from Highland stock, it should not be overlooked that the range of country for the former is comparatively limited,

the climate in winter is very severe and food is scarce, whereas in the Hawea district the deer are born in wild conditions and roam at will without restraint. The climate is genial for the most part, severe for a few weeks only, and food is, generally speaking, plentiful throughout the year.

CHAPTER VIII

THE INTRODUCTION OF RED DEER INTO THE RAKAIA AND POULTER RIVER DISTRICTS, AND THE ESTAB- LISHMENT OF SUBSIDIARY HERDS

THE Rakaia herd, now one of the more notable of New Zealand, was established by the introduction of park red deer from England. On the 24th September, 1896, the Canterbury Acclimatization Society authorized Mr. W. Izard, who was visiting England from New Zealand, to procure ten red deer in the proportion of three stags to seven hinds. There was no stipulation as to whether they should be wild Scottish deer or park deer. Mr. Izard arranged with the Agent General for New Zealand in London to obtain offers, and these were received from John Bailey & Sons, Mount Street, London; Jamrach, and Richard Porter. The offer of Bailey & Sons at £12 for each deer was accepted, and they obtained the specified number from Willoughby Bryant of Stoke Park, near Slough, Buckinghamshire, and these were removed from Stoke to Roxett Grange, Harrow, near the famous school, and held there in preparation for shipment.

One of the hinds died after delivery had been taken by the Agent General, and he received a telegram from the Port of London Authority requesting him "to remove his dead deer from the dock premises, as it could not be allowed to remain there any longer."



Photograph by H. N. King.

RED DEER STAGS, STOKE PARK, BUCKINGHAMSHIRE.

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The nine remaining deer were placed on board the s.s. *Waikato*, which sailed from London on the 23rd February, 1897. Just before the departure of the *Waikato* Captain Croucher, in command, wrote to the Agent General as follows :

“ I will see to the ‘ blooming stags.’ My carpenter has made most comfortable quarters for them. I am quite sure no ship could be more suitable to carry them. I shall take a lively interest in the welfare of the deer and birds myself, and also two bulldogs and some fowls that have come as passengers. We will all be great chums and sorry to part when we get to New Zealand.”

Thomas Pickering and his son were engaged to take care of the deer on the voyage. These were placed forward on the steamer and stood the voyage well. The *Waikato* made Port Chalmers, her first port of call, on the 6th May, 1897, and while the steamer was lying there, discharging part cargo, another of the hinds died. The records show that three stags and five hinds were landed at Lyttelton in excellent condition.

In chronicling the arrival of these deer a Christchurch newspaper reported that, “ One of the stags remained very wild, biting and kicking anyone attempting familiarity.”

The deer were placed in quarantine on Quail Island and appear to have remained there for five months. During this period a calf was born, presumably in May or June, the English calving months. The calf survived and it was liberated with its mother. In October, 1897, the deer—each in a separate crate—were removed from Quail Island to the Port of Lyttel-

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ton on a tug and conveyed thence by railway to Christchurch. Here they were taken in charge by Mr. W. A. McLaren, who, on request of Mr. Wm. Gerard, of Snowdon Station, Rakaia Gorge, transported them from the Christchurch Railway Station to the Wilberforce River in trailing wagons drawn by a traction engine. Leaving Christchurch in the afternoon and travelling all night, he reached the Wilberforce, 75 miles distant, on the following morning. On the south side of the river a road wagon drawn by eight horses, belonging to Mr. Gerard, was in waiting, and to this the deer were transferred and safely taken across the river, which was in high flood and running strongly. Mr. McLaren informs me that the team got across the river just in the nick of time, as, on reaching the other side, a tremendous rainstorm came on and the river became so flooded that he and his men were storm-bound for five days before they could re-cross it to his traction engine.

To unload the deer the wagon was backed up against a shingle bank the top of which was on a level with the floor of the wagon ; as the front door of each crate was opened the deer walked out. Mr. McLaren writes : " I never thought it possible for animals to jump as high as those deer did when they felt the ground under their feet." He further wrote me that on the journey from Christchurch he thought that the deer might be thirsty, so he told one of his men to give them water. The man returned saying they would not drink. Mr. McLaren naturally expected the water to be offered to these very fastidious animals in a clean bucket, passed through one of the doors ; but it transpired that the man, who was pluck personified where horses or cattle were concerned, was afraid

to confront the deer through an open doorway, so he had taken the camp frying-pan which was, like most up-country frying-pans, greasy all over, and, putting water into it, had passed it between the slats into the crates, but to his surprise the deer would not drink.

This small herd of nine deer thrived well from the time it reached New Zealand and has developed satisfactorily, not only numerically but physically and along good lines. They do infinite credit to their splendid progenitors of Stoke Park. They remained in the locality of their liberation at Manuka Point for some time, gradually spreading to fresh fields and establishing themselves on both sides of the Rakaia River. Some of them have crossed to the western coast of the island via the Whitcombe Pass.

In April, 1915, Harold Hodgkinson, of Birchwood Station, Lake Hawea, is stated to have made an inspection of the Rakaia district on behalf of the Canterbury Acclimatization Society. In his report he wrote that the deer were well-established and covered a wide range of country. The herd was free of "weeds" and malformed heads, and he saw no badly or irregularly-shaped antlers. He noted that many of the heads had no bay tines, and expressed the opinion that the stags grew to maturity very quickly and developed good heads when three or four years old. He saw numbers of "spikers" and "big-heads," but very few intermediate heads, *i.e.* six or eight points. Harold Hodgkinson points out that:

"the Rakaia deer are coarser and heavier animals than are the Otago deer, and whereas the latter are found high up on the Alps, the Rakaia deer appear to choose the lower ground and forest cover."

As a matter of fact, some of the Rakaia deer now frequent the highest country in the district—thus showing that park deer, when liberated in wild country, readily adapt themselves to new conditions.

The photograph of stags in Stoke Park which is reproduced in this book affords some idea of the very fine antlers which were produced there, and photographs and the measurement tables of heads secured in the Rakaia district show that the original quality has been maintained, if not improved, in their present environment.

Millais writes to me, that the best head he had seen from the Stoke Park herd carried twenty-four points ; it is, therefore, rather an interesting coincidence that, in 1917, George Sutherland secured a head of twenty-four points in the Rakaia herd from a descendant of the Stoke Park herd.

Stoke Park is contiguous to Stoke Poges and here lie the remains of the poet Gray, author of the famous *Elegy*. A monument to his memory is erected in Stoke Park. This property was once owned by the descendants of William Penn, and here, in 1601, Sir Edward Coke entertained Queen Elizabeth.

In *British Deer and their Horns*, Millais writes in regard to the deer of Stoke Park :

“ They are second only to those of Warnham ; it is doubtful if the Warnham deer of to-day are much superior to the Stoke herd when at its best, from 1872-79. Mr. Coleman, the owner, took a great interest in his deer and did all he could to improve them by generous feeding and constant change of blood.”

Further :

“ Eridge, Ashridge, Lyme, Raby, and Stoke Parks



HEAD OF RED DEER STAG FROM RAKAIA FOREST, 1908.

Points 16; length 41; spread 41; coronet 10; girth 6; length
brows $17\frac{1}{4}$; trays 15; weight clean skull 21 lb.

[To face p. 94.

have long been famous for the size of their deer, Raby and Stoke being the most celebrated.

“Stoke was originally a part of old Windsor Forest, where there have always been wild red deer since the time of the Norman Conquest; in fact, all this part of Bucks was Windsor Forest when Edward III. granted to Sir John de Molins licence to empark the Stoke woods in 1337. For some centuries the red deer were the pure forest breed, but during the Hanoverian dynasty George III. obtained a number of German red deer, which he introduced into Windsor Great Park, and some of which he sent to the owner of Stoke, who was, I believe, one of the Penns. These, doubtless, improved the breed.”

Evelyn Shirley records that :

“Sir John de Molins obtained licence from Edward III. to impark his woods in 1337 and 1340, and to fortify his manor houses of Stoke Poges and Ditton with walls of stone.”

Some forty years ago there were regular exchanges of stags between Windsor Park and Stoke, and more recently deer were obtained for Stoke from Warnham and Sir Greville Smyth's herd near Bristol. The history of the Stoke deer establishes their relationship with the Windsor deer, and therefore those of Rakaia are related to those of the Royal Albert herd, Wairarapa, while both are blood connections of the Warnham deer.

When the original Stoke herd was dispersed some of the deer were taken to the forest of Glenquoich in Scotland. As is the case with Thorndon Park, Stoke Park is now a golf course and there are no deer there.

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THE INTRODUCTION OF RED DEER INTO THE POULTER RIVER DISTRICT

A herd of red deer has been established in the Poulter River district, North Canterbury. Their progenitors were obtained from the Warnham Court herd. On the 2nd October, 1908, three stags and nine hinds were shipped in London by the s.s. *Papanui*. Each deer was contained in a separate crate, and for their feeding on the voyage provender was provided as follows: English meadow hay, $4\frac{1}{2}$ tons; crushed maize, 27 bushels; rock salt, $1\frac{1}{2}$ cwt. This supply was estimated to be sufficient for fifty days. The cost f.o.b. amounted to £174 10s. 11d., and this was borne in part by the Canterbury Acclimatization Society and several residents of Canterbury.

The ship's log records that on the 27th October, one hind, two years old, died; the following day a three-year-old hind died, and on the 4th November one hind had to be killed. These deaths were due to injuries received by the deer during a heavy storm; there was some question of the crates being too narrow. The eight remaining deer were sent forward for liberation without being detained in quarantine. On the train journey from Lyttelton to the Broken River station, en route to the Poulter River, a fourth hind died.

When Mr. Lucas heard of these losses he offered to replace the four hinds from Warnham Court Park. The Canterbury Acclimatization Society accepted his offer and also purchased an additional four deer, two stags and two hinds. These eight deer were shipped in larger crates than those sent on the *Papanui* and were forwarded from London on the s.s. *Turakina*

in September, 1909. They reached Lyttelton in excellent condition and were sent direct from the steamer to the Poulter River without being detained for quarantine. They were liberated on the 24th November, 1909. The herd is now estimated to comprise over several hundreds of deer, and it is reported to contain some very fine stags with large antlers. Many years previous to establishing the Rakaia and Poulter River herds the Canterbury Acclimatization Society made an effort to acclimatize deer in their district and some were liberated at Culverden, others at the Cheviot and the Little River; but they disappeared in an unknown manner, excepting one stag at Culverden which was known to have been shot for his persistent pugnacity in charging residents.

THE SUB-HERD OF LAKE WAIKAREMOANA

Waikaremoana, meaning in the language of the Maori "the Sea of Rippling Water," is in the Hawkes Bay district. It nestles two thousand feet high, is surrounded by mountains, and its shores are covered with ever-verdant foliage of every hue and shade of green. It is, I think, the most naturally beautiful lake in the world, not even excepting its acknowledged rival Manapouri, the gem of the great lakes of the Southern Island of New Zealand. Manapouri is pre-eminent in grandeur; Waikaremoana excels in beauty. It forms the subject of many Maori legends and thrilling tales of war. In the early days of white settlement, Te Kooti, the elusive Maori rebel and his followers raided Mohaka, a farming settlement to the south of the lake, killed some of the settlers and stole their horses. These were put through their paces,

those which were considered satisfactory were swum across the lake, at a narrow part known as the Straits of Manaia, and taken into the heart of the "Wild Urewera Country." Lake Waikaremoana has an area of 21 square miles, its greatest depth is 846 feet.

In 1901 I had, on behalf of the Government, seven red deer calves, which had been captured in the Wairarapa district, transferred to Waikaremoana and released near Onepoto. They thrived well, multiplied and extended northwards towards Gisborne. Stalking has now been pursued in the vicinity of Lake Waikaremoana for several years.

One method of stalking adopted by visitors to Waikaremoana is at dawn of day to skirt the shores of the lake in a motor-boat, and when a good stag is seen the stalker goes ashore and makes the approach for the shot on foot. Recent information indicates that the big stags remain in the dense forest where they are unapproachable, the younger stags frequent open spaces and the shores of the lake.

There are some pretty islands in the western arm of the lake, which is known as Wairaumoana, and I have seen deer swimming to them from the mainland to get a bit of extra delicate feeding.

Lake Waikaremoana is at times as "smooth as glass"; at others a very nasty lop occurs, and when the late Hon. Richard Seddon visited the district as Premier he crossed Waikaremoana in a Maori canoe, the wind blew so strongly and the lake became so rough that the canoe filled with water and the whole party comprising the Premier, his officers, and the Maori canoeists had a narrow escape from drowning. On one of its peaceful days, James Cowan, the well-known New Zealand author, and I ran the Govern-

ment launch *Kohurangi* underneath one of the large cherry trees which grow on the lake shore below the heights of Panekiri and, bending some of the branches into the boat, we sat therein and enjoyed eating the large, ripe, luscious cherries which were in great abundance.

Panekiri Mountain is celebrated in Maori legend as the abode of *patupaiarehe*—"The mountain fairies." The resident Maoris say that when the mist envelops Panekiri the fairies can be heard singing sweet and plaintive songs—in Maori, of course.

When Te Kooti was being hunted by *pakeha* (white men) soldiers, it is stated that he lay perdu for many weeks in the forest which envelops the sides of Panekiri, while the hunters were encamped on the top of it, not half a mile away from him. He escaped—he always did escape—and died peacefully in bed of old age.

CHAPTER IX

THE SUB-HERD OF THE RUAHINE RANGES

THE herd of red deer which has been established on that fine range of mountains in Hawkes Bay, known as the Ruahine Ranges, comprises a mixture of Otago and Wairarapa blood.

A portion of the consignment of deer from Invermark Forest was released in, or near, Bushey Park, then in possession of the late Gordon Rich. His son-in-law, Mr. William Shrimpton, owner of Matapiro station, Hawkes Bay, informs me that Gordon Rich took a very definite interest in the acclimatization of the original deer, and that :

“ he had a large enclosure, with a nice native bush of fair extent in it ; the young deer assembled there and, as they had plenty of privacy, they did well and increased rapidly.”

Shrimpton goes on to say that when visiting Gordon Rich on one occasion he observed how well the deer were thriving in Bushey Park and coveted some for Hawkes Bay ; his father-in-law laughingly said that he could have some if he could catch them. Mr. Shrimpton, thereupon, lay awake at night devising ways and means, and conceived the expedient of contriving a “ drop-trap ” ; this was duly fixed up, and when next some of the deer entered the turnip

enclosure three of them, a yearling stag and two hinds, were entrapped, secured in crates, sent to Port Chalmers and shipped thence to Napier, whence they were carted to Matapiro station, reaching there "in fair order."

Mr. Shrimpton had enclosed some land for their custody with a fence eight feet high. Here they contentedly settled down, and the following year he obtained "two additional hinds from Bushey Park, and retained the small herd in the enclosure until it comprised eleven deer; he then released them on Matapiro sheep station. They remained about the thin scrubby parts of the station for some considerable time, but as the herd increased in numbers, the deer became more and more shy and gradually wandered off to the foothills along the gorge of the Ngararuru, and from there they extended across the rim of the mountain in the Kereru locality into inland Patea and along the Ruahine Ranges past the Kaiwaka and from there in a westerly direction. It was observed that whenever a fair number of deer existed in a locality some of the young stags went off, taking a few hinds with them, and they travelled considerable distances before settling down again to form the nucleus of a fresh herd. Thus they spread from district to district, until they are now very numerous and extend as far north as Taupo. The red deer from Bushey Park were probably transferred to Hawkes Bay by Mr. Shrimpton about 1880, as Mr. J. W. Marshall, of Feilding, informs me that he saw a stag and two hinds in an enclosure on Matapiro station in 1880 or 1881, and Captain Russell saw them there in 1882-3.

Mr. Shrimpton further adds :

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“Shortly after the deer from Otago were released in Hawkes Bay five red deer calves were sent from the Wairarapa and turned out on the Ruahine Ranges, but I am not aware whether they intermingled with the others to any extent; two of them died and one went away north by itself and, I think, was shot by some ‘Hun up the Coast.’”

The Ruahine herd is now of considerable size and it ranges over a wide extent of country and many of the deer are to be seen on the low spurs of the Kai-manawa and at Kaiwaka, and in cold weather they go down to Matapiro, Okawa, Olig, and Keru. Some good heads have been obtained from this herd, which produces antlers similar in type to both the Otago and Wairarapa stags.

THE DEER OF STEWART ISLAND

Stewart Island, in latitude 47° south, is to the south of the “South Island,” and comprises an area of 423,725 acres or 662 square miles. It is separated from the mainland by Foveaux Straits, which are 22 miles in width at their narrowest part. Access is from Bluff; there are “dry” hotels, and boarding houses on the island. In addition to possessing the most southerly post office in the world it has many natural attractions, the scenery is very good, and there are choice and rare plants in its forest.

About fifteen years ago red and Virginia deer were liberated on Stewart Island, and recent reports show that it is estimated there are now about 3000 red and 600 Virginia deer there. Very few licensed stalkers have so far taken toll of these herds.

In March–April, 1919, only two licences were issued ;

and in 1920 they were increased to six. I am informed that some very good heads were obtained.

Exception is taken in some quarters to the liberation of red and Virginia deer on Stewart Island, presumably on botanical grounds, and it was recently stated in a New Zealand paper that I advised the Government to release them there. This is not correct. I have no desire to deprive the Southland Acclimatization Society of any credit due to them in stocking their district with deer, and therefore wish to say that I made no recommendation in this regard. Red deer were certainly obtained from the Tourist Department when I was General Manager thereof, and released on Stewart Island, but this was, I believe, done by the Society. When the Virginia deer reached New Zealand, I was in London. Had I been requested to give an opinion as to where they should be liberated, I should certainly and definitely have recommended the Fiordland National Park.

The mountains of Stewart Island do not range higher than 3,200 feet. They are well wooded and shrubs grow right down to the sea beach.

Opossums are reported to be numerous on Stewart Island, and their fur is stated to be of excellent quality. The large kiwi, locally known as the "*Roa*," is, I am informed, becoming plentiful, after having been almost exterminated "in the interests of Science."

The sea fishing is excellent, and "Stewart Island oysters" are world-famous. This reminds me that when at Brighton, not long ago, I purchased some "Whitstables." The oyster opener was expert, and I told him so. He answered that he had opened over thirty-two millions; and I advanced the suggestion that for all his experience he did not know where the

best oysters came from. "Yes, I do," he replied. I retorted, "No, you don't." He, "Oh yes." I, "Oh no." He again, "Yes, I do." I, "Where?" He, "Stewart Island." He was evidently intelligent as well as efficient.

Many years ago Colonel John Studholme and I hired a ketch to go fishing off the coast of Stewart Island. When we got to sea the wind dropped and a dead calm ensued. The weather was warm and fishing had somewhat palled on us by reason of the frequent and easy manner the fish were caught. We felt indolent and somnolent when all of a sudden we and the two sailors were galvanized into supreme activity by the coming on board of a huge octopus. He came up the side feeling his way, slowly but surely, with very long and thick tentacles. For a moment or so we all stared at the unusual occurrence in staggered surprise; then the captain of the ketch shouted to the crew: "Bill, get the bloody axe!" With this weapon the octopus was systematically deprived of his feelers. He was an audacious devil and deserved the amputation to which he was subjected.

CHAPTER X

THE RED DEER OF WARNHAM COURT

As all of the red deer herds in New Zealand are related either directly or indirectly to the deer of Warnham Court, Sussex, England, I append some information respecting this famous herd, as being quite appropriate to the subject of which I am writing.

“The Warnham deer are second to none in this country in the matter of body and horn. Their origin, however, is quite recent, and even after the introduction of the Stoke deer, by which the herd was strengthened some years ago, they were in nowise remarkable until the late Mr. F. M. Lucas (the cricketer) took them in hand and began a series of experiments with a view to improving the pasture, about 350 acres in extent. Every alternate year he dressed the land with bone-dust, the effect of which soon made itself felt.” (Millais.)

Although the deer park of Warnham Court, which is near Horsham, Sussex, about forty miles from London, was established as late as 1851, the district was apparently considered suitable for deer several centuries ago, and Shirley refers to a deer park which existed there as early as 1515.

The origin of the deer park at Warnham Court in 1851, was due to the accidental circumstance of a stag, which had been hunted, jumping the park

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fence and "settling down" on the Warnham estate. He was in due course presented to the owner of Warnham Court and for three years he was the only red deer in the Park. In 1854 two red deer hinds were bought from Herring of Chelsea, and in 1855 another hind was obtained from Sir Henry Clifford in Yorkshire. In 1862, when the late C. T. Lucas, father of Mr. C. J. Lucas, purchased Warnham Court, the herd comprised thirty red deer only, but they produced nothing special in the way of antlers. In 1868, however, an additional area of land was secured and a serious effort was made to establish a larger herd and improve its quality. The following table shows some of the additions which have been made to the Warnham herd:

1869	1 stag, 2 hinds, 1 calf	from Mr. Beadle's Park, Essex.
1871	1 " 2 "	from Lord Petre's Park, Thorndon, Essex.
1876	- 2 "	" Mr. Coleman's Park, Stoke.
1880	2 " - "	" Duke of Norfolk, Arundel.
1888	- 2 "	" Sir Henry Clifford, Yorkshire.
1891	- 4 "	" Earl of Derby, Knowsley, Lancs.
1893	1 " - "	" Sir Watkin Wynn, North Wales.
1896	- 1 "	" a park in Norfolk.
1898	2 " - "	" Lord Ashbrook, Kilkenny, Ireland.
1899	1 " - "	" Mr. Assheton Smith, Vaynol, North Wales.
1901	- " 2 "	" Mr. Assheton Smith, Vaynol, North Wales.
1901	- " 2 "	" Earl Brownlow, Ashridge, Herts.
1903	- " 1 "	" Mr. Assheton Smith, Vaynol, North Wales.
1904	- " 3 "	" Earl of Derby, Knowsley, Lancs.

Since 1904, Mr. Lucas has acquired and added to the Warnham Park herd other deer, hinds chiefly from

first-class park herds and some of the best forests in the Highlands, also a wild stag from Perthshire.

The Warnham Court stags are famous for their large antlers, and Mr. Lucas attributes their phenomenal growth to careful selection of fresh blood, the killing off of weakly calves and also of stags with poor heads lacking in length and general quality, the retention of adult stags in the proportion of one-third of the entire herd and rich pasture. The herbage is improved by artificial nourishment; every other year the park was formerly given a dressing of bone-dust and nitrates in the proportion of 3 cwt. to the acre, but during the last few years basic slag has been used.

The largest number of points produced is 47. The stag that bore them was born in 1880. These antlers were shed in 1892 and weighed 17 lb. 3 oz. In 1893 the antlers of this stag had receded to 45 points weighing 16½ lb. Mr. Lucas being then satisfied that this stag had passed his prime and was "going back," had him shot in 1894; he was then 14 years old and carried 43 points.

Antlers bearing 20 to 30 points are not uncommon in the Warnham Court herd, and Mr. Lucas records two yearlings each having 9 points, a very unusual development, and another of 11 points born in 1914, and now carrying a fine head of over 30 points, good in length and quality.

In addition to the record for number of points, viz. 47, already referred to, the Warnham Court herd also holds the records of Park Red Deer for length and span.

<i>Length.</i>	45"	.	.	.	22 points	.	.	.	1913
	47½"	.	.	.	15	"	.	.	1914
<i>Span.</i>	52½"	.	.	.	26	"	.	.	1904

A stag 12 years of age, carrying a wide, wild type of head bearing 46 points, was killed by another stag in December, 1921.

It is, of course, obvious that the successful management of the Warnham Court Park cannot be emulated in the wild lands of New Zealand; the conditions are altogether opposite. In parks a selection of animals suitable for breeding can be made, and those which are not strong and virile eliminated.

The proportion of stags to hinds can also be arranged for as desired, those selected for breeding kept together until the rutting period terminates and immature stags kept from the hinds.

In the extensive mountain forests of New Zealand selection cannot be made, neither can any proportion of stags to hinds be arranged for, nor can immature stags, nor those with aberrant antlers, be prevented from consorting with hinds during the rut. As a consequence of the inability of man to control the actions of these wild deer, the old and young, strong and weak, breed indiscriminately.

The Acclimatization Societies could, of course, preserve the master stags by prohibiting shooting in the herds throughout the rutting period; but this course would practically mean a cessation of stalking, as, outside of the rutting season, the big stags establish their haunts in dense forests where they can be neither seen nor approached.

The New Zealand deer herds exist primarily to afford sport as the question of utilizing the carcasses of stags for food is not taken into consideration, very little of it being eaten in any district.

Those who are desirous of establishing or improving deer herds, should read the article by Mr. Lucas in

Big Game Shooting, in the Country Life Library of Sport, from which I have made several extracts.

In conversation with Mr. Lucas in 1910, I suggested that it would be an interesting experiment to make a cross, in his park, between the Warnham Court deer and some of the Royal Albert deer from the Wairarapa. He expressed his willingness to make it, and I communicated with the Government of New Zealand on the matter, suggesting that some hinds should be sent to Mr. Lucas. As a result, the Government presented him with two hinds and at the same time the Wellington Acclimatization Society also presented two. These four young hinds were forwarded on the s.s. *Turakina*, which left Wellington on the 9th February, 1911. They reached London on the 26th March following and Warnham Court Park the next day.

Mr. Lucas informs me that two of these hinds did not develop well but remained small; consequently they were disposed of, the two others being retained for breeding purposes, and they are still in Warnham Park.

The poor development of two of these hinds was probably due to their being captured as calves and reared artificially. They were thus handicapped at the outset of life by adverse conditions which were inimical to their normal development. The experiment indicates that, although hinds in a wild state grow to an unusually large size in New Zealand, they do not always fully develop when reared in tame conditions.

Some red deer which were transported from England to New Zealand prior to September came into season after their arrival at the normal period for English deer, viz. September or October. The four hinds which

were sent from New Zealand to Warnham Court, reaching the park on the 27th March, 1911, came into season immediately on arrival. This, of course, is the New Zealand normal time and both of the occurrences mentioned were in natural order and consequently to be expected, but a somewhat unexpected result occurred in the latter instance as regards the Warnham Court stags. Millais, who is a very close observer of game animals, resides at Horsham, and therefore had special opportunities of observing these deer. He informs me that when the four New Zealand hinds came into season the whole of the stags in Warnham Court Park began roaring, fighting, and carrying on in a wild, crazy, noisy manner and rutted, although many of them had shed one or both antlers, and all of them had participated in the usual local rut during the previous September and October. This supplementary rut was a true one as subsequent events proved. Millais holds the opinion that it is the hinds which influence the rut, and this theory is certainly supported by the incident referred to above.

From one of the New Zealand hinds, mated with a park stag, a stag was produced which when five years old developed very fine antlers with a length of $40\frac{1}{2}$, spread $41\frac{1}{2}$, and beam $6\frac{1}{4}$. Mr. Lucas regarded this stag as carrying the best "wild type" head in Warnham Park, but owing to a mischance he was accidentally shot.

It has been definitely proved that red deer transferred from England to New Zealand or from New Zealand to England take two years to adapt themselves to the change of seasons as regards the rut and consequent calving, the shedding of antlers and pelage and their new growth.

In New Zealand the result of the crossing of Warnham and New Zealand deer has proved to be highly satisfactory on the Paraparaumu Game Farm, where excellent stock has been obtained by this blending of breeds.

Mr. Lucas has a golgotha at Warnham Court in the form of a large stone building which is used for winter tennis. Its walls are covered with a selection of the larger and better heads from his herds. Some of the shed antlers are arranged in yearly sequence from a spiker up to full maturity and on the stags being killed their heads are set up and placed in the proper order. This permits of a thorough examination of the development of notable antlers being made from the cradle to the grave, as it were. The inspection of this collection of big heads by a stalker conjures up visions of the antlers which he imagines were carried off by those stags at which he shot, but missed.

CHAPTER XI

THE INTRODUCTION OF FALLOW, SAMBAR, AND AXIS DEER

FALLOW deer (*Cervus dama*, or *Dama vulgaris*, or *Dama dama*, sub-genus *dama*) are native to Greece and not indigenous to Great Britain. They were early known in various parts of Europe, Asia, and the north coast of Africa, and were introduced into England from countries which border on the Mediterranean Sea. The word "fallow" is derived from the prevailing colour of this species and comes from *helvus*, *gilvus*, fallow colour or yellowish.

There are several variations in colour, or shades of colour, comprising white, skew or blue, dun, golden-dun and sooty-dun. The very dark deer are believed to be the hardiest of the *dama* family, and are said to have come from Denmark. King James I. imported fallow deer with dark brown pelage from Norway or Sweden. There are several herds of white fallow deer in parks in England developed from albinos or "Sports."

In their first year the young male and female fallow deer are known as fawns, from the French *faon*, which in turn is derived from the Latin *infans*. Afterwards the male is known as :

Second year, a pricket, with spike horns 4 or 5 inches in length.

Third year, a sorel. He has main beams and one spur or brow tine on each beam.

Fourth year, a sore. The beams increase in size and additional tines, or points, appear.

Fifth year, a buck of the "first head." The beams now take the palmated form.

"Buck" is said to be derived from bocker—to strike—as he now strikes or fights with his antlers.

Sixth year: he is now called an old, or great buck.

The following quaint rhyme in description of a fallow buck appears in *The Book of St. Alban's*, 1406:

"THE DYSCRYNYNGE OF A BUCKE.

"And ye speke of y bucks the fyrs'te 'yere he is :
A fawne soukyng on his dame say as I you wys :
The seconde yere a prycket the thyrde yere a sowrel
A soure at the fourth yere the trouth I you tell.
The fyfth yere calle hym a bucke of the first hede.
The syrte yere calle hym a bucke and do as I you rede.

"The hornes of a grete bucke or he soo be
Must be summonyd as I saye herkenyth to me.
Two branches fyrste pawmyd he must haue :
And foure adauncers the soth yf ye woll saue.
And XXIIII espelers and thenne ye maye hym call :
Where so ye be a grete bucke I tell you all."

The female fallow deer is known: first year, a fawn; second year, a teg; third year and afterwards, a doe.

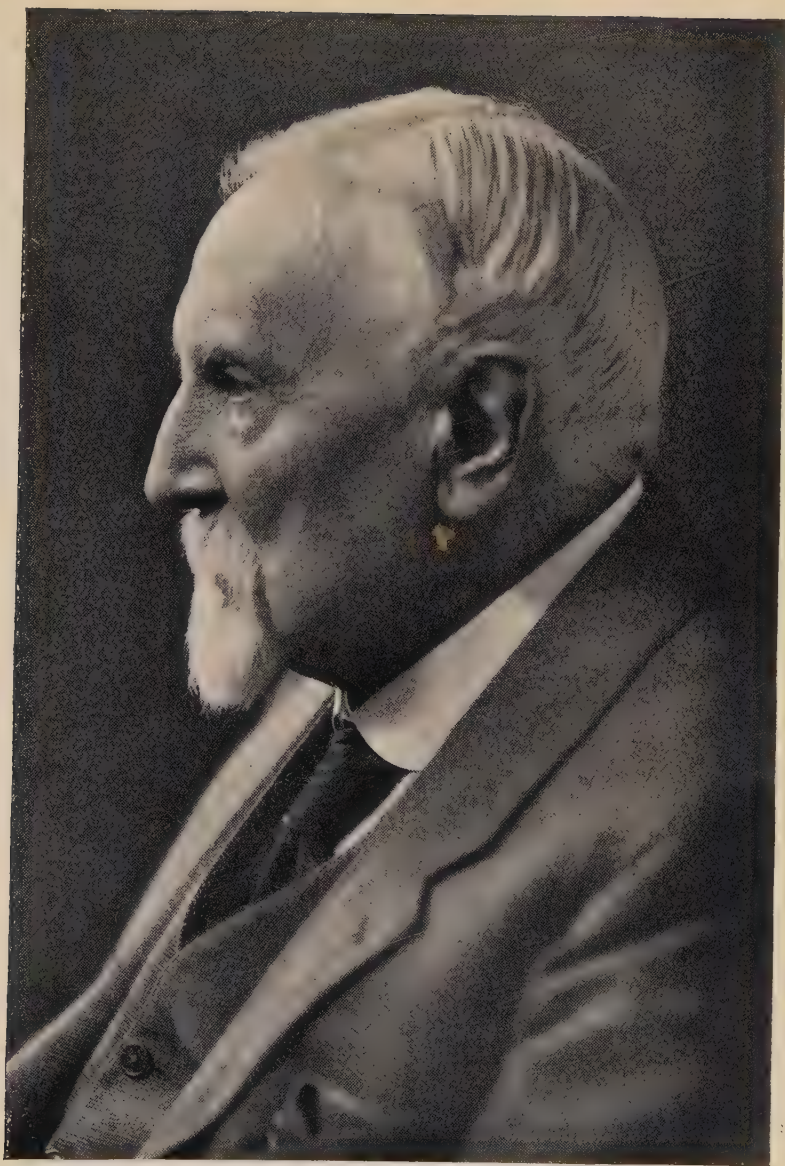
I find it recorded that the first fallow deer introduced into New Zealand came from Richmond Park, Surrey, in 1864. They were released in the Aniseed Valley, near Nelson, and acclimatized satisfactorily. In the earlier days of their existence they were well hunted but, although seriously depleted, they were not exterminated. Some of their offspring still exist.

In 1867 the Otago Acclimatization Society obtained four fallow deer from Australia and, in 1869, an additional twelve from England. These were released on the run of the late David McKellar of Brooksdale, near Tapanui, and were the forerunners of the present herds of this district.

In the seventies a few fallow deer were imported into Southland from Tasmania, but I have no information as to where they were released.

The shooting of fallow buck on the Blue Mountains, Tapanui, has been pursued for over twenty-five years, and the sport has a fairly large number of votaries. The Rankleburn district and the Black Gully were at one time favourite resorts for these deer. They are wild and shy, and good sport is obtainable. During the ten years prior to 1903, it is estimated that over two thousand bucks were shot by licensed stalkers on the Blue Mountains, and probably a similar number in the Waikato. In 1870, a cream-coloured, or so-called white, fallow buck reached New Zealand on the ship *City of Dunedin* and was released on the Blue Mountains. This buck left his mark on the herd and several white, or rather pale creamy-coloured, bucks have since been shot in this district. In 1895, a "white" buck was shot by C. Macdonald which weighed $12\frac{1}{2}$ stone (175 lb.). One of the best fallow buck heads obtained on the Blue Mountains came from a cream-coloured buck, and was for many years exhibited in the dining-room of the Clinton railway station.

On the 22nd December, 1876, thirty fallow deer were shipped by Mr. Falconer Larkworthy from London per the *Thurland Castle*; twenty-two of them were obtained from the late Jeremiah Colman, of



Photograph by Bee Belton.]

MR. FALCONER LARKWORTHY, C.O.R.

[To face p. 114.]

Carshalton Park, Surrey. Of this park Shirley writes : "It contains 145 acres. There is a herd of fallow deer. It was enclosed about the year 1756." After a voyage of five months the ship reached Auckland and twenty-eight of the deer were landed "in splendid condition." Eighteen of them were released in the Waikato district, being divided between Matamata and the Maungakawa Ranges, and the other ten were released near Wanganui. All three herds settled down and thrived well.

At one time fallow deer were very numerous in the tea-tree scrub on the Matamata plains, but they were wantonly killed off by pot-hunters shooting them at all times regardless of sex or season. I know of one labouring man who claimed with great pride that from this herd he had shot over four hundred fallow deer in one year, and he had very fully gratified his predilection for vests made of the skins of unborn fawns. This same man varied his destructive propensities by shooting wild horses and selling the hair from their manes and tails for 6s. per horse. Judging by the number of maimed horses to be seen carrying a "swinger" in the district where he operated, his shooting ability could not have been good.

The last occasion on which I saw this slayer of animals was at Orakei Korako, the very interesting thermal region near the Waikato River a few miles south of Ateamuri. He was riding a weedy-looking young mare which he had captured on the plains. It looked altogether too small and fine to carry him, but it had lots of pluck and the wild-horse characteristic of short, quick leg action when galloping. The man wore a big-brimmed hat and a yellowish-coloured linen jacket encircled by a leather belt, to which he

had attached a long revolver and a big butcher's knife, "implements of the chase." He had been whiskying up a bit and as he passed my party he hustled his mare along and leaning well over her neck gave vent to a succession of crescendo yells, very much like those given by Red Indians. We saw him half a mile distant still going strong and, no doubt, still yelling.

One method of killing fallow deer on the plains was to ride into the high tea-tree, which was their favourite resort, and snap-shot them from horseback. This form of hunting is in the United States termed "breasting."

Messrs. Reid Bros., of Te Motu Tapu—"the Sacred Island"—in the Waitemata Gulf, had a fairly large herd of fallow deer and a few red deer in the eighties. I think it is likely they first obtained them in 1870, and it was in that year that Sir George Grey introduced fallow deer to Kawau Island.

In 1900, when I visited Motu Tapu on the invitation of Messrs. Reid, the fallow herd had been reduced by shooting to about sixty members, and were as wild as a March hare. On sight of any person they galloped to and fro in their desire to escape.

From the Motu Tapu herd the Government secured seven fallow deer and liberated them on Totara Flat, West Coast, South Island, where they have since done well.

The principal herds of fallow deer are in the districts of the Waikato, Wanganui, Nelson, and Tapanui, but sub-herds have been constituted elsewhere. The stalking of fallow bucks in South Canterbury began in 1921.

Of recent years it has been found advisable to shoot off several hundreds of fallow deer in the Wanganui district as they were too numerous.



Photograph by Esquilant, Dunedin.

HEAD OF WILD FALLOW BUCK FROM BLUE MOUNTAINS, TAPANUI,
NEW ZEALAND.

[To face p. 116.

Fallow deer are very popular in England, and most of the deer parks contain a larger proportion of them than of red deer. The park-bred fallow is exceedingly tame and much favoured on that account. They form a picturesque adjunct to an English home-stead when set in a wide domain of grass-covered land. Their flesh is much appreciated as an article of diet.

In Scotland wild fallow deer have existed for centuries, and there is now a good herd of them on Barcaldine.

The fallow deer of New Zealand, or most of them, are born and bred in primeval forests. They fear the sight and taint of man and are truly wild. In those districts where shooting occurs they are wary and alert and difficult to stalk. One glance or sniff of man and they rush into cover as quickly as a glint of sunshine vanishes.

In England the old bucks commence shedding their antlers in May and the process continues into late June, when the youngsters cast theirs; fraying takes place in August and early September. Shedding occurs in New Zealand during November and December and fraying in late February and in March. It has sometimes been found that when stalking has occurred in mid-March the bucks had not finished cleaning the velvet off their antlers.

Fallow deer rut in England in October, two or three weeks later than red deer, and the fawns are dropped in June and July. During the rutting period the bucks call to the does, but it is a very spiritless effort in comparison to the roaring of a lusty stag at the same period. The bucks do fight, and at times viciously; but ordinarily there is much pretence, and a couple of bucks will threaten one another for an

hour or more and then nothing happens; one not being game and the other having no pluck.

In New Zealand the rut and parturition take place six months from the English dates. Usually one calf is born; twins occasionally occur, and triplets have been known. Like so many other varieties of deer the fawns are spotted white when born and retain these spots during their early infancy.

In their first year fawns develop two cutting teeth in the lower jaw and two each succeeding year until they are four years old, when they have eight lower teeth. When five years old the bucks usually, but not always, grow two small tusks in the upper jaw.

The tables of measurement which follow will show that there has been no phenomenal development of antlers due to the good feeding, milder climate, and fine shelter of New Zealand. As a matter of fact, the measurements which I have obtained are neither so long nor so wide as some of the English heads.

TABLE OF MEASUREMENTS OF THE ANTLERS OF FALLOW BUCKS KILLED IN NEW ZEALAND.

No.	District.	Points.	Length.	Spread.	Span.	Beam.	Palm.
			Inches.	Inches.	Inches.	Inches.	Inches.
1	Tapanui	26	26 $\frac{1}{2}$	35 $\frac{1}{2}$	23	4 $\frac{1}{2}$	6 $\frac{1}{2}$
2	"	22	27	29	17 $\frac{3}{4}$	4	5
3	"	20	27	30	17 $\frac{1}{2}$	3 $\frac{3}{4}$	5 $\frac{1}{2}$
4	"	20	27 $\frac{1}{2}$	28 $\frac{1}{2}$	16 $\frac{1}{2}$	4	5 $\frac{1}{2}$
5	"	20	26	31	22	4 $\frac{1}{2}$	5 $\frac{1}{4}$
6	"	19	25	33 $\frac{1}{4}$	17	3 $\frac{1}{2}$	5 $\frac{1}{4}$
7	"	17	27	26 $\frac{1}{4}$	20 $\frac{1}{2}$	3 $\frac{3}{4}$	3 $\frac{1}{4}$
8	Waikato	17	29 $\frac{1}{2}$	26 $\frac{1}{2}$	20	4	4 $\frac{1}{4}$
9	"	15	22 $\frac{1}{4}$	25 $\frac{1}{4}$	19 $\frac{1}{2}$	4 $\frac{1}{2}$	3
10	"	14	25	26	19 $\frac{3}{4}$	4	4 $\frac{1}{4}$
11	"	12	24 $\frac{1}{2}$	30 $\frac{1}{4}$	27 $\frac{3}{4}$	3 $\frac{7}{8}$	3 $\frac{1}{2}$
12	Motu Tapu	18	27 $\frac{1}{4}$	27 $\frac{1}{4}$	14 $\frac{1}{4}$	3 $\frac{7}{8}$	3 $\frac{7}{8}$
13	"	18	25	23 $\frac{1}{4}$	13 $\frac{1}{2}$	3 $\frac{3}{4}$	3
14	Nelson	16	21 $\frac{3}{4}$	27	20	3 $\frac{1}{4}$	3 $\frac{3}{4}$

British measurements, taken from Millais' *British Deer and their Horns* :

No.	Length.	Spread.	Span.	Beam.	—
	Inches.	Inches.	Inches.	Inches.	
15	—	27	25	4 $\frac{1}{2}$	—
16	—	26 $\frac{1}{2}$	24	4 $\frac{1}{2}$	—
17	19	28 $\frac{3}{4}$	35	4	Irish
18	18	28	26	4	„
19	27	29 $\frac{1}{2}$	28 $\frac{1}{2}$	5	—

Some measurements recorded by Rowland Ward :

Points.	Length.	Spread.	Tip to tip.	Beam.	Place killed.
	Inches.	Inches.	Inches.	Inches.	
12 × 10	32	28	18	4 $\frac{1}{8}$	Woburn Abbey
—	31 $\frac{1}{2}$	28 $\frac{1}{2}$	31	—	—
12 × 12	30	22 $\frac{1}{8}$	—	3 $\frac{5}{8}$	Sussex
22	28 $\frac{1}{2}$	30	—	5	Otago, N.Z.
10 × 10	26	23 $\frac{3}{4}$	20 $\frac{3}{4}$	5	Tasmania
14 × 11*	29 $\frac{1}{4}$	—	—	4 $\frac{1}{8}$	Woburn Abbey

One method adopted for shooting fallow deer in English parks is for the keeper to ascend a large tree, when the deer are driven towards it, and from his elevation he shoots down upon the animal required. This practice avoids the likelihood of shooting one's next-door neighbour in case of a "miss."

As I was motoring along the road which skirts Charlecote Park, in Warwickshire, one afternoon in July, 1920, I observed the head of a solitary-looking doe that was lying under a wide-spreading tree, but on giving a sharp whistle about one hundred and fifty similar heads bobbed up as if by magic; after a few moments' time the heads all disappeared into the high grass for a continuance of the *siesta*.

* The palmation of these antlers is 8 inches, the widest fallow antlers recorded by Rowland Ward.

THE SAMBAR (*Cervus unicolor*)

The sambar, sambur, sambhar, or sambhur. This deer is a near relation of the axis ; it comes from south-eastern Asia and is plentiful in India, Ceylon, Burmah, and China. The stag is of compact and strong build, but not handsome, standing in maturity about fourteen hands, and a large-sized, fat one weighs up to 600 lb., exceptionally large specimens having been killed weighing 700 lb. Their pelage is dark brown, uniform in colour, with exception of the chin and inner sides of their limbs, which are of a yellow-whitish colour, and on their buttocks is an orange-coloured patch of coarse texture. The stags have three tines only on each antler, long brows and beams with anterior and posterior terminals. A large pair of antlers may measure from 45 to 48 inches in length ; Rowland Ward's longest measurement is $50\frac{1}{8}$ inches. In New Zealand I obtained an unusually even pair which measured :

Points.	Length of beams.	Span.	Spread.	Coronet.	Above brow.	Tapering to	Length of brows.	Length of top tines.
R. L.	Inches. R. L.	Inches.	Inches.	Inches. R. L.	Inches. R. L.	Inches. R. L.	Inches. R. L.	Inches. R. L.
3 3	38 38	26	$34\frac{1}{2}$	$8\frac{1}{2}$ $8\frac{1}{2}$	$7\frac{1}{2}$ $7\frac{1}{2}$	6 6	$14\frac{1}{2}$ $14\frac{1}{2}$	$14\frac{1}{2}$ $14\frac{1}{2}$

Following are some of Rowland Ward's records of sambar :

Points.	Length.	Span.	Tip to tip.	Girth.	Where killed.
	Inches.	Inches.	Inches.	Inches.	
3 × 3	$50\frac{3}{8}$	$38\frac{1}{2}$	24	$7\frac{1}{2}$	Bhopal.
3 × 3	$46\frac{1}{2}$	—	49	—	Central Province.
3 × 3	$46\frac{1}{2}$	$41\frac{1}{2}$	$36\frac{1}{2}$	$6\frac{1}{4}$	" "

The Indian representatives of this species have larger antlers than those of Ceylon. In India the sambar stags shed their antlers in March, and the new antlers are clean in July and August.

In the lower parts of India and also, I believe, in Ceylon, rutting occurs in September and October.

In other parts of Asia the shedding of antlers and rutting occur at altogether different times to Southern India and Ceylon.

Sir Samuel Baker says that sambar do not always shed their antlers in the same season.

The period of gestation is eight months ; usually one calf only is produced annually, although twins occasionally occur. The calves are uniformly coloured chocolate brown without spots.

In New Zealand sambar stags shed their antlers in October and November, and rutting occurs in March and April, and the calves are dropped in November and December.

The venison of sambar is coarse, and that of stags killed during the rut is practically uneatable.

These deer are lovers of dense woodlands and when in the forest are most difficult to sight, owing to their colour merging into their surroundings. They are usually killed by patient, still hunting. In their native habitat they ascend the mountains up to five and six thousand feet, and have been seen as high as ten thousand feet. They can go without water for several days, and when there is a choice they prefer high to low country and heavy bush to open lands. They like heat, and are grass eaters as well as browsers, feeding mostly at night, although, like red deer, they taper off their appetites after daylight, lie down during most of the daytime, and rise to feed again before

sundown. Between 1862 and 1876, Mr. Falconer Larkworthy, a large run-holder of New Zealand, interested himself very keenly in the acclimatization of animals and birds and presented to New Zealand several varieties of deer. I have recently had the opportunity of talking to Mr. Larkworthy, who is residing in Hampstead, London. He informed me that in his efforts to introduce animals, birds, and fishes into New Zealand he was very closely associated with Messrs. Tom Russell, James Williamson, and J. C. Firth, of Auckland.

On the 1st June, 1875, Mr. Larkworthy received a consignment of two sambar from Ceylon, another female which was purchased to accompany them having died in parturition before the journey commenced. These arrived in Wellington in the ship *Teviotdale* and were transferred to Mr. Larkworthy's estate at Carnarvon in the Rangitikei district. The female went into the scrub and remained in hiding, but the male, which was very tame, just "loafed" about the homestead. A representative of a newspaper in Wanganui called at Carnarvon one afternoon and asked to see the sambar stag; he was enjoying a siesta in one of the paddocks at the time, so the Pressman went to where he was lying and, to cause him to rise and show off his figure, he gave the stag a hard kick, which evidently injured his dignity, for on rising he turned on the offensive newspaper reporter and chased him at high speed to the nearest fence. As the hunted man endeavoured to get over this the top rail broke and he dropped into some gorse. The stag stood over him and struck him over the head several times with his fore feet until driven off by Mr. Larkworthy.

This pair of sambar bred, and in course of time a fair-sized herd of deer was established in Carnarvon. The original stag remained near the station homestead but the hind was much wilder and kept in the bush ; her calves also remained there and never became tame. As this herd increased in number some members forsook the home of their birth and went farther afield into other districts, and here they were persistently hunted and shot, irrespective of age, sex, or season.

In 1893 it was officially reported that herds in the Carnarvon district, at one time aggregating well over one hundred members, had been reduced by illicit shooting to about thirty in number. It was feared by those interested that these sambar would be exterminated ; representation was thereupon made to the Government and resulted in their being brought within the provisions of the Animals' Protection Act and under control of the Wellington Acclimatization Society. The effect was marked, and in 1898 the herd had re-established themselves to the extent of over a hundred members. In 1916 it was reported that they were numerous and that some very good heads were obtained by licensed stalkers. There is now a large number of sambar in the Upper Manawatu district.

In 1876, Mr. Larkworthy presented a pair of sambar deer to the Auckland Acclimatization Society, but the female died and the male acquired the usual objectionable habit, which semi-feral deer are prone to acquire, of chasing persons. He once, when in a pugnacious mood, attacked a servant of the Auckland Acclimatization Society ; the man was wheeling one of those high-sided wheelbarrows used by gardeners, and when he saw the intention of the stag he promptly turned this over, legs upwards, got underneath it

and shouted for assistance, while the stag vainly tried to overturn it so as to get at him.

A female mate for this sambar stag was afterwards obtained from Colombo by Mr. Larkworthy and sent to Auckland, and the pair were subsequently released near Morrinsville, Waikato, where they multiplied.

It is stated that whenever a stag emerged from the bush to open lands, the whole district was agog with excitement which did not die until he died. It would appear, however, that despite the insistent hunting and shooting to which these deer were subjected, some survived, and a small herd is now reported as existing between Morrinsville and Cambridge.

In November, 1907, eight sambar were obtained in Noumea, New Caledonia; two by the Tourist Department and six by the late H. R. Benn, a settler of Lake Okareka, near Rotorua. These deer were all liberated in the Galatea district and are thriving satisfactorily.

In 1915, seven sambar calves, one male and six females, were captured in the Foxton district for the Government Tourist Department and liberated near Lake Rerewhakaitu, Hot Lakes district.

In 1919, an additional eight sambar calves were taken by the Tourist Department in the Himitangi, formerly known as the Carnarvon district. They were reared until able to fend for themselves, and in 1920 were released in the vicinity of Mounts Tarawera and Ruatoki, near Rotorua.

Neither sambar nor any other deer will multiply to any great extent in the vicinity of close settlement; human nature is against their doing so; and the obviously proper locality for them is in the Fiordland National Park.

Mr. Falconer Larkworthy—whose names, by the way, are suggestive of sport—is an Englishman, big, strong, and resolute, and although he has reached the fine age of ninety years, he is erect, alert, and mentally and physically full of vigour. In sending to New Zealand game animals and birds, including Californian quail, he was prompted only by a desire to promote the increase and variety of food supplies for the general weal.

THE AXIS DEER (*Cervus axis*)

The axis, or spotted deer, chital, cheetal, or chitra, is indigenous to the greater part of India and Ceylon.

It is a comparatively small deer, standing about 36 inches. A good buck weighs from 150 to 180 lb., but a very fine one may be as heavy as 250 lb.

It is shapely and pretty, of bright reddish-brown colour, flecked with numerous white spots. Its throat and belly are white.

The antlers of the buck have six points only, three on each beam. The length of an average beam is about 30 inches and a good span is about the same. Like other varieties of deer the axis feeds at night and early in the morning. It lies down during the greater part of the day and rises again late in the afternoon.

It is stated by some writers that axis do not rut at fixed periods, as do most other members of the deer family, but breed all the year round; also that their antlers are shed at indefinite periods.

The axis are fond of scrub and long grass cover, and the sportsman secures them by quick snap shooting; it is not often that opportunity is afforded of stalking them in open lands.

In 1867 the late J. A. Ewen, of Dunedin, took seven

axis deer from Melbourne for the Otago Society, which had come from Calcutta. They were sent to the late Gordon Rich, who released them in the neighbourhood of Bushey. In 1877 the herd had increased to about half a hundred. At this time settlers were complaining of the depredations committed on their farms by the deer. The authorities could not remove them, so one can only assume that the settlers undertook to do so, and succeeded, as they were shot out of existence about 1890-95. As far back as 1875, a pair of axis deer were running free on the low hills north of Tinakori Road, Wellington City; but the buck, having developed the pernicious habit of butting pedestrians, was shot.

In the same year there were two axis deer on the Signal Hill at the Bluff. They were tame and remained near what was then the very small seaport township. There was some talk of transferring them to Ruapuke Island, but I have no information regarding their ultimate fate.

In 1893 the Zoological Society of Calcutta presented to the Wellington Acclimatization Society two axis deer, which were liberated on the Government Game and Bird Sanctuary of Kapiti Island, which is in Cook's Straits and has an area of approximately 5,000 acres. In 1907 the Government Tourist Department arranged for Mr. James Cowan, author of *The Maoris* and other works, to examine Kapiti and report on the bird-life, etc. The Maoris informed him that there were then three deer on the island.

In 1902 the Otago Acclimatization Society imported three axis deer, which were quarantined on Quail Island. I have no information as to whether or where they were liberated.

In 1906, on behalf of the Government, I ordered

from Jamrach, London, two male and eight female axis, but he could then supply two males and four females only. These were forwarded on the s.s. *Papanui* from London in charge of a man named H. Page, and reached Wellington on the 8th August, 1907. One of the does became blind on the voyage and was given to the Zoological Gardens in Wellington. The five others were released in the Tongariro National Park.

This park was presented to the people of New Zealand by Te Heu Heu, an important and very much respected Maori Chieftain of Tokaanu, Lake Taupo. It is 17 miles in length, varies from 4 to 6 miles in width, and comprises 62,000 acres. In its confines are two lakes, some good trout rivers, and the remarkable mountain Ruapehu, 9,175 feet, which has a boiling pool of clear blue water embasined in one of the glaciers on its summit. There is also the active volcano Ngauruhoe, 7,515 feet, which can be climbed and, when in repose, its interior may be viewed from the lips of its great crater. In addition, there is Tongariro, 6,458 feet, from which mountain the park takes its name. By the Maoris this mountain is the most revered of the trio, for on it many of their noble chieftains and brave warriors sleep their long sleep. Tongariro is *tapu* on this account and, for many years, it was most carefully and jealously guarded from the trespass of white men, whose feet were not permitted to desecrate its sacred soil.

In the greatness of his nature a one-time savage gave to his former enemies this splendid park, fit appendage to a kingdom. At the special request of Tukino te Heu Heu, grandson of old Heu Heu, and successor to the Chieftainship, I had the honour of being one of the first members of the Tongariro

National Park Board of Administration. The late Hon. Robert McMab, then Minister for Lands, was, at one time, Chairman of the Board, and at a meeting he informed me that I was required to remove from the park the five axis deer which I had liberated there, and their progeny. These deer had not been seen since their liberation, and it was not even known that they had remained within the park area, so I displayed what is usually termed "masterly inactivity" in the matter.

There are many wild horses in this park, and I have seen the Maoris with about a hundred of them rounded up and following a tame decoy mare into the stockyards, where the best of them were selected for breaking-in as hacks.

On the 22nd October, 1907, an additional order for six axis deer was placed with Jamrach by the Tourist Department; these, with four bharal, were shipped from London by s.s. *Rimutaka* on the 12th June, 1908, and reached New Zealand in good condition on the 30th July following. They were quarantined on Somes Island, Wellington, for two months, and subsequently the axis were liberated at Dusky Sound, Fiordland National Park.

Rowland Ward records a pair of axis antlers as having a length of 39, circum. $4\frac{5}{8}$, tip to tip $24\frac{5}{8}$ inches. Any measurement over 36 inches in length and 18 inches from tip to tip is considered to be a very good head.

CHAPTER XII

THE INTRODUCTION OF MOOSE (*Alces machlis* OR *Alces americanus*)

THE name "moose," from the word *Moosu*, was aptly bestowed on this great, unbeautiful, strange-looking, ill-shaped relic of antediluvianism by the Algonquin Indians, and means a wood eater, or browser. Some other Indian tribes call it *Teeam*. The early French settlers in Canada termed the moose *l'original*, and even now in some districts in Canada and U.S.A. it is known as "The Original." The moose is the largest of the deer family, and an ordinary adult male stands about $5\frac{1}{2}$ feet at the shoulder, and very large specimens have measured up to 7 feet.

The Alaskan moose (*Alces m. gigas*) exceeds in size the average-sized moose of more southern latitudes.

A fully-grown bull moose may weigh from 700 up to 1500 lb.

The Alcidae of Norway, Sweden, Northern Germany, Russia and Siberia are known as elk ; they are smaller in size and produce smaller antlers than their Canadian and American congeners. The European and American elk will interbreed. In the United States of America the wapiti is called an "elk," as is the sambar in Ceylon. In New Zealand the moose and wapiti are, in some quarters, commonly referred to as elk.

It is believed that the elk of Canada and the moose of the United States migrated to the American

continent from Asia in the days before those lands were separated by Behring's Straits. Some American scientists, however, claim that the elk originated in North America, and migrated to Siberia and Western Europe. The general characteristics of the *Alces* family are similar, and it is assumed that any slight variation is due to the more recent conditions of environment.

A moose bull which was killed on the Kenai Peninsula, Alaska, measured from nose to tail 11 feet, height at shoulder 7 feet 2 inches; and another large bull, killed in Alaska, weighed 1980 lb. (17 cwt. 2 qrs. 10 lb.). Another measured from tip of nose to root of tail 9 feet, girth 7 feet 10 inches, around belly 8 feet 8 inches, length of head 2 feet 2 inches, height at shoulder 6 feet 9½ inches. The measurements of one other bull, killed in the United States of America, were as follows: Length, nose to tail, 9 feet 7 inches; girth, 8 feet; height at shoulder, 7 feet; length of skull, 33 inches.

An elk killed in Norway weighed 1260 lb. (11 cwt. 1 qr. 10 lb.).

The bull moose attains his full bodily growth in his sixth year.

The cow moose has no antlers and her body is nearly as large as that of the bull.

Pliny supplies a tit-bit of ancient inaccuracy of this animal when he writes:

"The elk has no joints in the hind leg. Hence it never lies down but reclines against a tree while it sleeps. Its upper lip is so extremely large, for which reason it is obliged to go backwards when grazing; otherwise by moving onwards the lip would get doubled up."

Fortunately for the elk, it has been proved to have joints in both its hind legs and can therefore lie down quite comfortably. Its upper lip, too, does not necessitate the elk moving backwards when feeding; it has, however, other difficulties to contend with as, owing to its short neck and long legs, it is compelled to straddle its fore legs when grazing. This physical peculiarity makes it, perforce, a browser, and the Red Indian had evidently observed this when he named it a moose.

The head of the moose is very large and for such a huge animal its eyes are small and deeply set. The ears are long; there is no metatarsal gland, and no canine teeth in the upper jaw. Like all other deer, excepting the musk deer, the moose has no gall bladder. The adult bull has a pendant tuft of black hair from 4 to 12 inches in length under his neck below the throat; this is known as his "bell"; it exercises no function and when the bull gets old, and his vigour declines, it disappears. The "bell" sometimes, but very rarely, occurs in a cow moose. The fore legs of a bull are about 45 inches in length, his hoofs are large, broad at the heels and taper off to a point; the lateral hoofs are comparatively large. In soft ground the moose makes a deep, definite imprint which is easily recognizable. His tail is not more than $5\frac{1}{2}$ inches in length, and is obviously remarkably short in proportion to his bulk.

His pelage varies in length and colour with the seasons. In winter the hair is long and coarse, and of a smoky, grey colour. In spring the old coat is shed and replaced by shorter hair of a rich blackish brown hue, giving the animal the appearance of having been polished by thorough grooming.

The great glory of the bull is his tremendous antlers

which in size exceed all antlers other than those of the extinct Irish elk. The pedicles, on which the antlers are annually produced, emerge from the skull at right angles to the middle line of the forehead. In this respect they differ from other representatives of the genus *cervus*, whose antlers project upwards at an acute angle with the line of the forehead and incline slightly forward.

The basal portions of the main beams are cylindrical for about 6 inches and then expand into wide palmations which sweep backwards and are closely serrated along their front edges with a series of bony projections termed tines, or points, often totalling 15, or more, on each antler. From the cylindrical beams there project strongly subsidiary anterior beams, which produce two, three, or even more, large, definite tines. A good pair of moose antlers weigh half a hundred-weight, or even more, and the palmation measures about 30 inches in length and 20 inches in width.

The extreme spread of large antlers sometimes exceeds 6 feet. At the Louisiana Purchase Exposition there was a very large display of moose antlers, and I saw one pair which measured 6 feet 6 inches in spread and had over 30 points. In the Field Museum of Natural History, Chicago, there is a pair of moose antlers with 34 points and a spread of 6 feet 6½ inches, the palmation, at its maximum, is 18 inches across and the circumference of the coronet 15 inches. Hibbs, an American writer, records the spread of a pair of moose antlers, from the Kenia Peninsula, as being 8 feet 6 inches. This measurement should, however, be regarded with reserve; it perhaps represents the *length* of the two antlers instead of the actual spread—merely a case of incorrect method in measuring.

The antlers of the European elk do not compare with those of America for size either in width, length, or palmation. The spread of a good pair of antlers from Scandinavia is about 38 inches.

Rowland Ward records the spread of the largest Norwegian elk antlers as being $49\frac{7}{8}$ inches.

The following measurements are from Rowland Ward's *Records of Big Game*, 1914 :—

	Points.	Length.	Spread.	Tip to tip.	Girth.	Palm.	From
		Inches.	Inches.	Inches.	Inches.	Inches.	
Alces m. americanus	15 × 13	44	$74\frac{3}{4}$	45	12	$13\frac{1}{2}$	Alaska
"	20 × 17	$47\frac{1}{4}$	72	$37\frac{1}{2}$	$9\frac{1}{4}$	$16\frac{1}{4}$	"
"	20 × 21	42	$65\frac{1}{2}$	52	8	—	"
"	18 × 16	$46\frac{1}{2}$	62	35	$9\frac{3}{4}$	21	"
"	19 × 15	$45\frac{1}{2}$	$63\frac{1}{2}$	43	$10\frac{1}{4}$	22	"
A. m. typicus :	4 × 4	$30\frac{1}{2}$	$48\frac{3}{4}$	44	8	5	Norway
(European elk)	10 × 10	$30\frac{1}{4}$	$47\frac{1}{2}$	$32\frac{3}{4}$	$6\frac{3}{4}$	9	"
"	10 × 9	32	48	$37\frac{1}{2}$	$8\frac{3}{4}$	$11\frac{1}{2}$	Russia
"	10 × 10	33	$51\frac{3}{4}$	$36\frac{1}{4}$	$8\frac{1}{2}$	$15\frac{1}{4}$	Norway
"	10 × 10	$32\frac{1}{2}$	46	33	$7\frac{1}{2}$	$11\frac{1}{2}$	Sweden

Moose antlers, like those of other deer, are composed of bone, and are shed and reproduced annually. They attain their full size when the bull reaches his seventh year. In America the matured bulls begin to drop their antlers in February, but the greater number fall in March. As with red deer the old bulls shed first, and the older they are the earlier they shed; the younger ones follow suit several weeks later. In New Zealand the moose antlers should fall in August, September, and later. From the time of shedding until the antlers are renewed to full growth, clean of velvet and in good trim for fighting, a period of four months elapses.

The fall of antlers occurs during the calving period: the bulls feeling seedy go into retirement and move about as little as possible, owing to the tenderness of

their growing antlers, which are then in an acutely inflammatory condition and easily injured. This provision of nature protects the cows and young calves from attack by the bulls at a crucial period. When the huge beast is again full of lust and fight, the calves are quite able to look after themselves and avoid any aggression on his part. Moose calves can be captured when dropped by the cows and kept alive on milk from the domestic cow, but this should be reduced in quality, by the addition of an equal quantity of water, and given at a temperature of, say, 98° Fah. Moose milk is not so rich in fats as cows' milk, and if the latter be given pure, the calves are likely to sicken and die. As time goes on and the calves gain strength, a little corn meal may be added to the milk and the quantity gradually increased. The calves may also be given young shoots and tender shrubs in moderation; but green grass is not good for moose either young or old, as it often causes gastro-enteritis.

Canadians and Americans talk of "hunting" moose, and this term seems to be more appropriate, in the American sense, than stalking. The following methods are adopted:

(1) "Still hunting," which means wandering silently in woods, stopping and listening for any call, breaking of dry twigs, striking of antlers against trees.

(2) "Calling" with bark horn in the rutting, or calling, season.

(3) Concealment and watching near swamps and water holes.

(4) Canoeing on lagoons and slow-running rivers, often after dark.

(5) Killing them while they are swimming. They are good swimmers and fond of the water.

(6) Fire hunting, known as "jacking," is practised at night. A fire made of birch bark, or a torch is carried on a canoe, or a fire is lit in the forest, and this attracts to close quarters any moose in the vicinity.

(7) Following and running them to bay on snow-shoes in February and March. When snow is encrusted by frost firmly enough to sustain the weight of a man, the Red Indians, and some white men, on snow-shoes, follow the moose and, as the latter break through the crust, their legs sink deep in the snow, they quickly tire and come to a standstill, when they are killed. This is termed "crusting."

(8) Visiting a moose "yard" in midwinter and shooting them.

Moose "yards" are camping spots where there is food in winter-time; when the ground is covered with deep snow these are usually established amidst a generous growth of young trees and shrubs on which they browse. The "yards" are occupied by families of moose, usually comprising a bull and a cow and their offspring of one, two, and sometimes three years of age, or at times, a moose-yard party may comprise as many as a dozen animals. On the other hand, an old bull may "yard" alone. When the supply of food has been consumed the moose move off and establish a new "yard."

(9) Bringing them to bay with dogs.

(10) Snaring with traps.

The first method is considered to be sportsman-like; the others are reckoned to be no better than poachers' artifices, and recent legislation in the States has made some of these practices illegal.

The bull moose is monogamic in his tendency, in

this respect being quite different from either red deer or wapiti.

In the United States the bulls show heat in early September ; but the cows do not, as a rule, respond until a week or two later, and even as late as October.

In Alaska and Canada the rutting season begins in a more or less desultory manner in September and continues until nearly the end of October. The New Zealand rut occurs in the corresponding weeks of March and April, the same time as the New Zealand red deer rutting season. After the rutting period has terminated moose, like the red deer, are very restless for several weeks before they settle down to their normal form of life. The period of gestation is eight months, usually two calves are produced, but exceptional cases are known of three having been born to one cow. The calves are of a rich brown colour with a slightly mottled appearance. During the rutting or "calling" period the cows call the bulls in a long, soft, seductive tone, which is difficult to imitate, although some Indian half-breeds, and white men hunters are adepts at doing so. The moose cow has three different and distinct "calls," the more common one sounding like a long-sustained plaintive *meu-uu-oo*. As a means to an end, most moose hunters have a strong desire to become good callers. The calling implement is known as a "birch bark horn," or "trumpet" ; it is made by stripping a piece of bark about 15 inches square from the stem of a birch tree and rolling this from one corner to its opposite corner, thus forming a cone ; the aperture at the smaller end should be about one inch and at the larger end about four inches in diameter. This is trimmed with a knife and held in shape by twisting

a vine tendril around it or securing with a piece of string. A proficient "caller" can lure an amorous bull towards him at an impetuous pace from a considerable distance, according to the comparative stillness of the atmosphere.

A bull moose is not likely to answer a "call" if he has a cow mate unless the hunter imitates his own grunting, which sounds like "oonh-oonh," this being accepted as the challenge of a rival for the gracious condescension of female favours. Calls are made at about half-hour intervals. In some districts, bulls are lured towards the hunter by drawing or scraping the dry shoulder bone of a moose against the dry bark of a young tree. Some hunters affirm that "any old noise" will bring a rutting bull moose within shooting distance.

To call moose with the aid of a bark horn, the caller sometimes conceals himself in the high branches of a tree, so as to obtain a wider range of call, the hunter being on the ground near by the tree and hidden in brushwood. After calling a few times at not too frequent intervals and while the nerves of the hunters are in a condition of anticipatory tension, they hear the report of a breaking twig, a rustle of brushwood, or may be a deep guttural grunt, and become acutely alert; next moment, perhaps, they get a clear sight of a majestic bull standing within easy shooting range. On the other hand, a taint of human smell may have warned him of danger, and before it is too late he turns and is off up wind as quietly and quickly as a streak of sunlight. As a rule an old bull approaches a "call" most warily and carefully, exercising all his cunning and caution and making full use of his senses of smell, hearing, and

sight, often casting down-wind in an endeavour to pick up the odour of the caller.

A young bull, however, is usually more rash and, concluding that the "call" came from a lady desirous of companionship, he rushes off, blundering along through timber, breaking a bough with his immature antlers here, or one with his feet there; he is hot and ardent and desire outweighs discretion; however, he is immune from destruction by the hunter for heads, but he does not always escape danger, as his kind is particularly acceptable to the pot-hunter. It appeared to me, in my somewhat limited experience in hunting moose, that a bovine horn with the point cut off is just as useful for calling as a bark horn. The moose, like nearly all, if not all, of the American deer family, is a forest-loving animal and frequents the forest to browse on the leaves and young shoots of trees; he also likes swamps, ponds, or slow-running streams and lagoons where he can gather moss, lichen, or the succulent lily. He is fond of aquatic plants, including the willow; where there are under-water plants to his liking he will entirely submerge his head to secure them.

During the mating season bull moose are sometimes fooled by the wily hunter and attracted towards him by partly filling a boot or hat with water and then holding it high, trickling the water into a quiet lagoon or lake.

There is a very general belief that moose prefer lowlands of a swampy nature to the higher and rougher country of the mountain-sides. This assumption is, by some American writers, said to be incorrect, and although they do frequent swamps it is believed that they are primarily influenced in doing so by the fly

pest. In the "fly season" to avoid irritating attacks of flies moose often submerge themselves up to their eyes in swamp water and mud. At other times they favour high country and settle along the upper margin of the forest where there is good browsing on brushwood.

Moose are often found on higher ground than either wapiti, Virginia or mule deer, which is somewhat remarkable when one considers the great bulk of the bulls and the large size and heavy weight of their antlers. When he is feeding a bull moose will straddle a fairly stout tree and bear its stem down with his brisket or a fore leg until he can reach the leaves, which he contentedly strips and consumes.

Moose begin to feed at dawn and continue browsing until sunrise, or "sun-up" as Americans say; they then lie down until 10 or 11 a.m., feed again until about 2 p.m., rest again until 4 or 5 p.m., then resume feeding until dusk, when they bed-up for the night.

The use of the calling-horn by hunters is begun early in September and continued until late in October. The best times are with a rising moon on a still evening, and from an hour before dawn until daylight. Fairly good light for shooting is afforded from a week before until a week after full moon. A still atmosphere is essential for successful calling; otherwise the call will not travel a great distance against a breeze, and a bull will certainly not approach the caller from down wind, as he would pick up the human taint a mile away.

Bull moose have been known to come for several miles through intervening forest right up to the spot where a solitary call was made, indicating a remarkable sense of direction.

The art of calling moose was, it is stated, first

practised by the Micmac and Millicete tribes of Indians. The practice of calling deer with the aid of an extemporised horn was not confined to moose in Canada and America, as, in days long gone by, horns made with bark of birch trees were used in the Tyrolean Alps for calling roe-deer. There is, of course, no especial virtue in birch bark itself for this purpose but, owing to its being available in large sections, it is made use of, and its pliability and toughness lends itself to the formation of a cone which is reminiscent of the sweets cone of one's knickerbocker days.

The practice of "calling moose" is now being discouraged in some States of America, and the Boone and Crockett Club is opposed to the killing of them by calling, jacking, hounding, crusting, and also to the driving of deer to run-ways or into waters, as not being "Fair Chase."

The Boone and Crockett Club was organized and is maintained to promote manly sport with rifle; to encourage travel and exploration; to assist in the preservation of game by promoting legislation and enforcing the laws in respect thereof. It is comprised of a definite number of active members besides associate members.

This club and The League of American Sportsmen exercise great activity in the preparation and passing of legislation for the proper control of hunting and the preservation of game.

The Americans, with the view of restricting the killing of deer, have legislated to shorten the open season, limit the kill, and prohibit the sale of venison. In many States hunters are limited to one wapiti per rifle per season.

The licence fee in some game States is as high as

\$50 (£10), and hunters are required to take a *licensed* guide with them. In some States the guides are also Game Wardens with power to arrest persons for infringement of the game laws. Guides are required to make reports to their head-quarters of the number and variety of game animals killed by the hunters whom they accompanied.

More men have been killed in the United States by the idiotic practice which some men adopt of shooting at movement in cover, without certainty of knowledge as to what they are shooting at, than in any other country.

At one time it was a felony in the State of Maine to shoot a hunter in mistake for a game animal, and rendered the offender liable to a fine of \$1000 (normally £200), *and* ten years in the Penitentiary.

As moose confine themselves very much to the forest, it follows that the hunter must seek them there and also adapt his methods to suit the circumstances. "Calling," referred to previously, correlates very closely to "still-hunting," that patient, stealthy movement up-wind amongst the trees and brushwood with quiet feet, wide-open ears and eyes, and rifle ready for immediate action. Still-hunting, in my opinion, causes a greater strain on the nerves of the hunter than does ordinary stalking in open ground. In the one case the hunter spies his game from afar and is concerned only as to whether it moves off before he can get within easy shooting range; but in still-hunting one is on the tip-toe of expectation all the time, as he never knows when or where he may sight his deer, and then action must be taken with lightning-like rapidity. It is a lonely kind of sport as, to be successful, one should proceed alone. Where moose frequent the vicinity of

rivers, small lakes, or large lagoons, hunters use light canoes of the Canadian type, and these are quietly propelled near the banks or shores; the moose is often found standing breast-deep in water, feeding on shrubs and plants. Night hunting is often practised, and when the moose is detected a flare is lighted and the hunter shoots by the light which it affords.

Moose are cautious and crafty and when they intend lying down for a rest they usually make a circular detour and come back on their tracks to ascertain whether all is well. They then lie with their backs to the wind, trusting to their sense of smell to detect any danger from windward, and keeping a sharp look-out to leeward. They are not quick to discover by eyesight the presence of man, if he remains quite still; but they very readily detect any movement and are instantly alarmed at the sound of the human voice.

Captain Hardy tells a story in respect of Indian Lake, Nova Scotia, which had a parallel in Lake Tarawera, Hot Lakes district, New Zealand.

In Indian Lake there is a rock known as "Grand-mother," and the Red Indians hold a superstition that when passing it in canoes on the way to the moose hunting-grounds, it is necessary for the ensurance of good luck to propitiate the spirit of the rock by making an offering of money, tobacco, or biscuit. Old Joe Cope, an Indian guide, told him that "anything a'most will do," as he cut off a piece of tobacco and another hunter threw some biscuit on to the rock. "Now you wouldn't believe it, Capt'n, that when you come back you find all that gone. I give you word that's true; we always find what we leave gone." Joe, to accentuate the importance of votive offerings, told of the dangers which Indians had incurred by omitting

to visit the "Grandmother" rock; some had been accidentally shot when in the woods, others had broken legs, or been seized with violent pains, but on returning and making presents to "Grandmother," they immediately recovered.

In Lake Tarawera, New Zealand, opposite the site of the Maori pa that stood on the little peninsula of Moura, and which was destroyed on the night of the Tarawera Eruption, when a number of Maoris were buried alive with ejecta from the mountain, there is a large rock and the Maori guide, Riri Potaka, who had charge of the Tourist Department's four-oared rowing boat, used to tell his passengers tales of "evil spirits" that rested near by and which had to be propitiated with a gift of money. The tourists got into a serious funk at Riri's hair-raising yarns and gladly paid an insurance premium against mishap by throwing some silver coins on the rock, just as some churchgoers pay a "fire insurance" premium by contributing to the collection.

Riri solemnly assured his victims that if they visited the rock the next morning they would find that all of the money had vanished. He then added: "I speak true."

He did not, however, think it worth while to mention that on its return to Wairoa, in the evening, the whale boat would call at the rock and its crew would collect the propitiatory offerings and divide them.

Perhaps Riri knew what he was talking of and that "evil spirits" did get the money after all, as there was a good deal of bad liquor sold in parts of the Hot Lakes district.

In 1898, the Hon. Sir James Carroll, K.C.M.G., one of the representatives of the Maori race in Parliament,

held the portfolio of Native Minister. He was keenly desirous of having moose introduced into New Zealand, and steps were accordingly taken in the matter by opening up correspondence with the Premier of Canada. His Government, with that cordial generosity which has always been displayed by the Senior Dominion to its younger sister in the Pacific, responded by submitting the question to the Privy Council, who referred it to the Minister of the Interior. He, in turn, made inquiries and informed the New Zealand Government that young moose could be readily obtained through the Hudson Bay Company. The Government of Canada having given the required authority permitting moose to be sent out of its Dominion, the New Zealand Government entered into direct communication with the Hudson Bay Company, who undertook to secure moose.

On the 14th October, 1899, the Hudson Bay Company advised the New Zealand Government that they had fourteen young moose ready for shipment. They were, however, not shipped until the 5th January, 1900, when they were forwarded from Vancouver on the s.s. *Aorangi*. These calves, probably born in the preceding May, were therefore about eight months old when shipped. They were placed right forward in the ship and were in charge of Chief Factor Archibald McDonald of the Hudson Bay Company, who was in control of the operations for catching the calves in their native habitat.

When the *Aorangi* reached Sydney, Australia, its commander, Chas. Wm. Hay, reported as follows :

“ On the 6th, 7th, 8th and 9th of January very heavy gales were experienced from south, south-west and west, during which the vessel was straining,



Photograph by courtesy of C. Burridge, Wairoa.]

THE HON. SIR JAMES CARROLL, M.L.C., K.C.M.G.

On the 20th August, 1857, he was born under the cabbage tree which stands behind him.

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labouring, plunging and rolling heavily. The speed had to be reduced considerably during the storm for the safety of the vessel. Immense quantities of water were constantly breaking on board, especially forward, and keeping the decks continually flooded. Ten of the moose died from the effects of this bad weather and their carcasses were thrown overboard."

In Sydney the four surviving calves, two males and two females, were transferred to one of the U.S.S. Company's steamers and conveyed to New Zealand, 1200 miles across the Tasman Sea, and reached Wellington in excellent condition.

The caretaker of the moose, McDonald, reported to the Premier of New Zealand as follows :

"I reached Wellington on the 8th February, 1900, with four live moose, two bucks and two does, in excellent condition.

"The balance of the lot of fourteen with which I started, died at sea owing to severe weather which was encountered nearly all the way to Honolulu. While the storm was raging I appealed to the Captain, asking him if no arrangements could be made to save those still living and offering to pay for any extra accommodation. After consulting with the Chief Officer, the four moose were removed to a mail room and cabin between the saloon passengers' cabins and officers' cabins. Had this not been done I question if any could have been saved, as little could be done owing to the severity of the storm."

The efforts made to introduce a fair number of moose to establish a herd in New Zealand were unfortunately thus early thwarted by the elements. On reaching Wellington the four moose were placed in Lane's stables, Molesworth Street, opposite the Old

Parliamentary Buildings ; they were as tame as pet ponies, and when I offered one of them a biscuit all four wanted it, and their attentions became quite embarrassing. On the 10th February, 1900, the four moose were shipped in a small coastal steamer from Wellington for Greymouth, in charge of L. F. Ayson, Government pisciculturist, who was assisted by Barnes, the man who had helped McDonald on the voyage from Vancouver. Ayson is essentially a fish expert, his inclination and experience do not lie with animals. Mr. Seddon, the Premier, into whose constituency the moose were sent, knowing of Ayson's success in handling bull-trout, doubtless opined that he could also handle bull-moose. Here, again, the moose had a rough trip, but reached Greymouth two days later. They were landed and conveyed the same afternoon to Hokitika by train and placed in Cameron's stables. On the following day Ayson and Barnes made an inspection of the Arahura Valley, and on the 14th February they inspected the Hokitika Valley, so as to determine the better locality in which to liberate the moose. They decided on the Hokitika Valley, and the moose were accordingly conveyed there next day in drays, a distance of twenty miles from Hokitika, the last six miles being very rough indeed. The same day the four moose were placed in an enclosure belonging to Mr. Dedrich, and after being fed and watered they played about, thoroughly enjoying themselves. Shortly afterwards they were released, and it is recorded that the settlers in the district took great interest in them and promised assistance in their protection. Ayson reported that, following instructions which he had received from the Government, he inserted advertisements in two local papers notifying the libera-

tion of moose, and "threatening severe punishment to anyone disturbing or molesting them."

On being given their freedom, the two bulls and one cow went into the Hokitika Gorge and the other cow took up her abode at the back of Doughboy near Vine Creek, and sometimes visited the settlement of Koiterangi and remained in that vicinity for fourteen years. At first this cow was made a pet of by the settlers, but became such a nuisance that at one time she was taken well up the Hokitika Gorge in the hope that she would find and consort with the three other moose; she, however, soon returned to her old haunts.

The second cow was seen in the Hokitika Gorge on several occasions during a period of two years.

From reports it would appear that a man named McKenzie had seen the bulls a year after their release.

The tame cow near Vine Creek was fond of sugar and other tit-bits and followed persons about; the residents knew that she was harmless, but not so strangers, and this led to some rather exciting and amusing episodes. One quiet evening a gold-digger appeared in the neighbourhood of this cow. He was carrying his swag, smoking a peaceful pipe and probably contemplating a hearty meal before turning into bed in the home of one of the hospitable settlers. As he trudged quietly on, his attention was arrested by the quick pit-pat of hoof sounds; looking around he saw the cow moose running towards him. He knew cattle, horses, sheep, and even goats by sight, but nothing like this had he seen before; the nearer she came the more scared he got until, breaking into a run, he found his progress impeded by his swag, so throwing this off, including his tin billy, frying pan and pannikin, he ran, with the cow in close attendance, as fast as he

could to the nearest tree up which he scrambled with considerable agility. This nonplussed the cow, so she waited around for him to come down; he dared not descend while she was there, and darkness ensued with the digger still up the tree. He was afraid to venture down in the dark for fear of meeting her and therefore remained aloft all night. Next morning the moose had gone. When he told people of his predicament they laughed, and said she was quite tame and only wanted to be friendly. This caused him greater annoyance, and he wrote a letter to me strongly protesting against the indignity and inconvenience which he had been made to suffer by "Your moose."

Most of the deer family in their wild state are afraid of man; the bull moose, however, appears to be an exception, and many instances are recorded where they have savagely attacked hunters, when cornered or hard-pressed, and they are known to have rushed at and smashed canoes during night hunting.

A cow moose in a tame condition is of an affectionate disposition, but in defence of her calves she can, as Paddy would say, be mighty handy with her feet.

It is on record that a cow moose attacked, thrashed, and ultimately vanquished a large-sized grizzly bear that was sneaking after her newly dropped calf. We all know that a bear is no slouch in a fight, especially when he is hungry.

Moose when familiar with man become as tame as domestic cows; bulls have frequently been used in harness to draw vehicles.

In 1907, I made a recommendation to the Right Hon. Sir Joseph G. Ward, Bart., K.C.M.G., P.C., who was then Prime Minister and also Minister of the Tourist Department, that another effort should be made to



HEAD OF A MOOSE BULL.

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obtain additional moose from Canada and he authorized me to take the necessary action. I thereupon entered into communication with the Hon. Forget, Lt.-Governor of Saskatchewan, who gave his valuable assistance, without which it is likely that moose could not have been secured. Through his representations the Canadian Government again kindly relaxed their very stringent regulations prohibiting the export of moose, and he undertook to secure good specimens of young moose when the winter snow made the opportunity for their capture favourable. After I had left New Zealand for London, in 1909, ten moose were secured in Saskatchewan and sent to Banff. Fred Moorhouse, Inspector of the Tourist Department, was sent there to receive them and make all arrangements for their transport to New Zealand. When he reached Banff the temperature was 10° below zero Fah. Moorhouse got busy and had ten crates made in Vancouver, on similar lines to those which I had designed in Washington, D.C., in 1905, for accommodation of wapiti. After leaving Vancouver, the steamer in which they were carried encountered very rough weather, but the moose were properly stowed in suitable crates and satisfactorily weathered the storm. They experienced the extreme heat of the equator and tropics and at Suva the thermometer registered 90° Fah. in the shade, showing the great range of temperature which the animals had to undergo in a period of only a few weeks. At Sydney, the destination of the steamer, the moose were transferred to one of the Union S.S. Company's steamers and conveyed to Wellington, New Zealand. This crossing of 1200 miles between the islands was made in very heavy weather, but, as Moorhouse wrote me, "the moose were landed

in the pink of condition and without a scratch or mark." At Wellington they were transferred to the Government steam-yacht *Hinemoa* and taken to Dusky Sound, Fiordland National Park, where they were liberated without loss or mishap. Mr. Samuel Merrill of Cambridge, Mass., author of *The Moose Book*, writes to me that :

"The experiment of introducing moose into New Zealand is a very interesting one. It seems to me that there is little occasion to apprehend that the moose released in New Zealand have failed to survive."

He details a large variety of forest food on which they could live, and adds :

"I don't know much of forest conditions of New Zealand, but it would be a queer piece of timber where a moose would go hungry."

Mr. Merrill goes on to say :

"In Newfoundland moose were unknown until forty years ago. Two specimens were released in eastern Newfoundland at that time and they were supposed to have perished soon after. In 1904, four moose were released in western Newfoundland. When I was there in 1907, in the region where they were set free, every one said that the experiment had failed and that none of the four had survived, and this belief prevailed for several years; but the Secretary of the Game and Inland Fisheries Board at St. John's wrote to me a month or two ago that in recent years two moose have been killed in eastern Newfoundland, which are believed to be descendants of the pair taken to the island in the late seventies of the last century, and last September I received a letter from Mr. J. R. Whittaker, an Englishman living at Curling, western

Newfoundland, telling of seeing two moose a few days before. He said that five or six moose have 'yarded' near his place for the winter on three occasions. I believe that it will be found that the moose in New Zealand are keeping in retirement—which is their natural inclination—and that they are increasing in numbers and will ultimately be found to have established a permanent foothold, just as they have done in Newfoundland."

The chances are, I am afraid, against the materialization of such an optimistic hope. Had this little party comprised two cows and one bull their chances of establishing themselves would have been improved by 100 per cent.

As regards the general question of food for moose in New Zealand, one can only state that there is an abundance of evergreen forest, and as the two bulls of Hokitika are stated to have been seen twelve months after liberation, and from the fact that one and the other one for fourteen years, also that well-cow is known to have remained alive for two years grown *young* moose born in Fiordland have been seen, it may be confidently assumed that the food and climate are both suitable for the maintenance of moose. Time will show whether there are other conditions detrimental to their satisfactory development.

By the kindness of Mr. James Hislop, Under Secretary of the Department of Internal Affairs, Wellington, I am informed by letter dated 20th January, 1920, that in response to my request for additional information concerning the Hokitika moose, the Department asked Professor Kirk, of the Victoria University College, to try and obtain some trace of them on his recent visit to the "West Coast." He, thereupon,

made full inquiry from Crown Lands and Forest Rangers, the Secretary of the Westland Acclimatization Society, residents of Hokitika, and settlers of the Hokitika Gorge and Koiterangi, but was told in each case that nothing had been seen of the two bulls since their release (excepting McKenzie's statement). Professor Kirk concludes by saying: "I could find no reason to suppose that any of the moose can still be living."

It seems to be certain that when the moose were released from the paddock on Mr. Dedrich's property in 1900, the two bulls made off into heavy forest cover, as is their wont, and the cows remained in the more open country, one near Vine Creek and the other in the Hokitika Gorge. It is likely that they did not come together again as they were liberated about a month before the commencement of the New Zealand rutting season, which would not affect them so soon after their transfer to New Zealand, and especially as they were so young.

It would not be surprising if the bulls made their way into the red deer country, which is not far distant from Hokitika, and some day their skeletons will probably be discovered by a stalker, bush-wacker, or gold-digger.

Dr. Hornaday is keenly interested in the experiments of introducing wild game animals into New Zealand, but more especially in their protection and care when once they are acclimatized. He sees with great sorrow the constant and wanton destruction of animals and birds all over the world, and is doing heroic work to stem this tide and to delay the day of extermination, if he cannot altogether prevent it. He writes to me that he is closely watching the results

of New Zealand's efforts in the acclimatization of moose, but he has much doubt whether success will attend their introduction :

“as these animals usually disappear in a mysterious manner when introduced into a new country. In this relation I may mention that the transplantation of moose to lower latitudes of the Atlantic coast of America has, up to now, presented an insoluble problem. They simply refuse to be transplanted.”

Dr. Hornaday informs me that moose will not mature as far south as New York City, and that it has never been possible to keep a moose alive to maturity in the New York Zoological Gardens. To whatever cause this fact may be attributable it does not appear to prevail in New Zealand, as is evidenced by the long survival of the Hokitika cow and the breeding of moose in Fiordland National Park.

The latitude of New York is 40° north and of Hokitika $42^{\circ} 42'$ south. The climate of Hokitika is wet and in 1915 rain fell on 179 days ; the annual fall averaged 116.23 inches. The temperature is fairly even and in the same year the maximum summer temperature was 66.2° Fah. in the shade. The winter minimum was 33.7° , a variation of 33 degrees only, and the annual mean temperature was 50.1° .

In America moose originally ranged from latitude 43° north to 70° north. They do not appear to have been influenced by longitude, as in suitable country they spread east and west. Their extreme range at present is approximately from 40° north to about 66° north. Alaska, which is famous for moose with unusually large antlers, is between latitudes 60° and 70° north. The Kenai Peninsula is in latitude 60° north.

New Zealand extends from latitude $34^{\circ} 30'$ to $47^{\circ} 10'$ south, the north of the islands being towards the equator and the south towards the Antarctic.

Fiordland National Park is between latitudes 45° and 46° south. The latitude of Dusky Sound is $444^{\circ} 0'$ south. The Fiordland moose were imported from Saskatchewan, which is in latitude 53° north. In 1915, rain fell in Fiordland on about 180 days. The temperature ranged from 35.0° in winter to 67.5° in summer, and the annual mean temperature was 50.2° Fah.

Should the natural conditions of Fiordland prove suitable for moose and a normal increase of numbers occur some tremendous antlers may be looked for, as the Saskatchewan herds are noted for producing great antlers. The predisposition for producing big heads therefore exists in this strain, and the animals would always have a full measure of food to develop a generous growth of bone. The cold of winter is not severe enough to make life inconvenient or even difficult, though it should be sufficient to promote good health. They are in a National Park, difficult of access owing to natural barriers and therefore easily protected, and there are no destructive animals to prey on their calves and so to limit increase. In March, 1923, the Government issued two licences to kill each one bull moose. They were available from the 24th March to the 31st May inclusive. No moose was killed.

From the latest reports it would appear that no moose was killed in Fiordland in the stalking season of 1924.

Mr. E. J. Herrick, who stalked there in March, 1924, has expressed the opinion that moose are very scarce in Fiordland National Park, and that the killing

of bull moose should not be permitted for another five or six years.

The transfer of members of the *Cervus* family from the northern to the southern hemisphere induces a complete change in their life as affecting the periods of shedding antlers and their new growth by the males, the rutting, and new growth of hair of both sexes, and the calving of the females. It appears obvious that with moose, as with other deer, a special rut in these conditions is influenced by the females.

I am of the opinion that cows if transferred from Canada or the United States to New Zealand *prior* to the period when rutting normally occurs in America would, during their first year in New Zealand, come in season at a time coincident with the northern rutting period. That New Zealand bred bulls, in the neighbourhood of the imported cows, would again come in season sympathetically with these cows and a true rut would result, notwithstanding the fact that the bulls had, six months previously, taken part in the local rut.

The following year the cows would come in season at a time three months later than the northern rutting period and three months earlier than the New Zealand period, *i.e.* midway as regards time between the two local periods.

In the third year of their importation and thereafter the cows would rut at the New Zealand normal period.

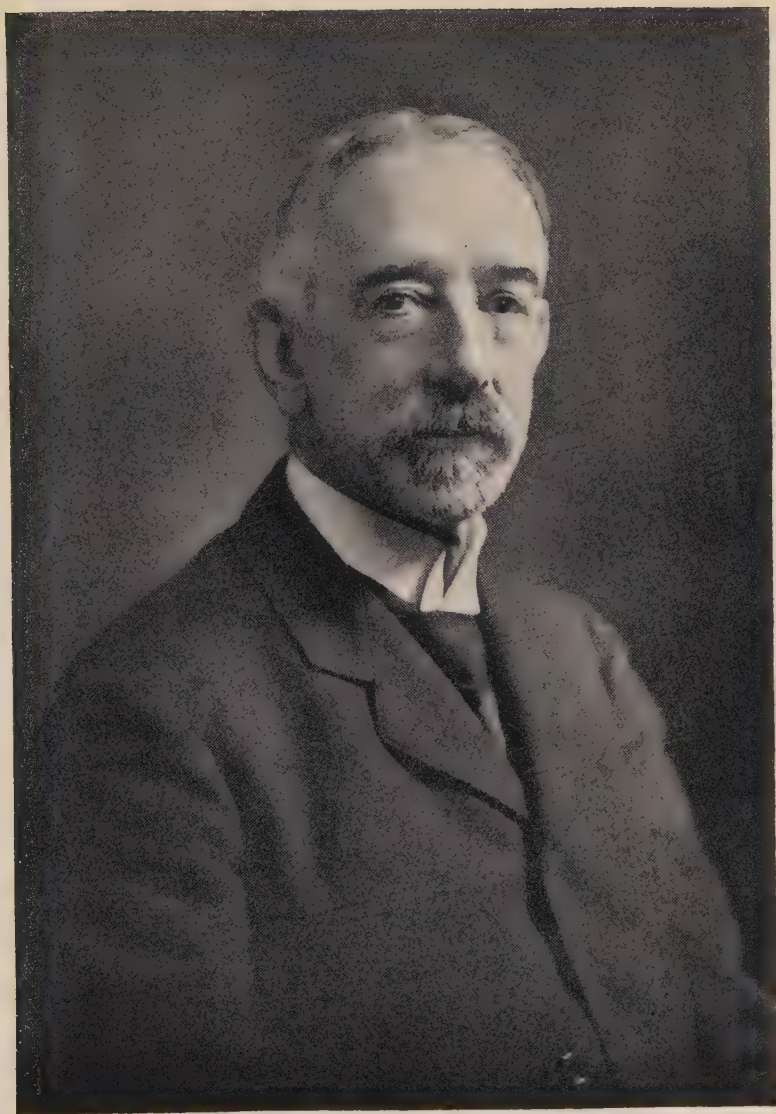
Imported bulls during their first year in New Zealand would shed their antlers and pelage in the American period, although midwinter in New Zealand, and the following year at a time midway between the two local periods, and thereafter coincident with the New Zealand period.

CHAPTER XIII

THE INTRODUCTION OF WAPITI (*Cervus strongyloceros* OR *Cervus canadensis*)

THE wapiti, or Canadian stag, is the largest living representative of the cylindrical-antlered deer. It is scientifically accepted that the wapiti was a migrant from Asia to Northern America in the days antecedent to Behring's Straits, probably in the Pliocene, or early in the Pleistocene period. The Baikal wapiti (*C. canadensis asiaticus* or *C. c. sibiricus*), often referred to as the Altai stag and the Tien-shan wapiti (*C. c. songaricus*) are closely related to the American wapiti and will inter-breed, or breed with the red deer, and it is stated that the hybrid progeny in each case are fertile.

In Canada and the United States, in days prior to white settlement, wapiti had a wide range, practically from the sub-Arctic regions to Mexico and from the eastern to western seas. The increase of the white man with his modern destructive agencies has resulted in a very large decrease of wapiti and its range is steadily and surely contracting. Its natural habitat in America was from 34° to 56° north and in its original state the wapiti frequented all classes of country; the treeless prairie or dense forest, plain or mountain, rich pasturage or poor lands, nothing came amiss to him. To-day he is largely a forest



Photograph reproduced by courtesy of Lafayette, London.]

MR. ST. GEORGE LITTLEDALE.

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dweller, not so much from choice perhaps as to avoid the constant pursuit of his most persistent enemy, man.

As with the bison, there has been undue slaughter of wapiti. Tens of thousands have been killed merely to gratify the *penchant* of members of the numerous "Elk Societies" in U.S.A. for wearing a wapiti's tusk as a badge of membership. These tusks, therefore, have a special value and a good example will fetch as much as 25 dollars. The hides of the wapiti can be converted into soft leather which is much in favour with Red Indians for making hunting jackets, as, when properly dressed, it does not harden after being wet. They are readily saleable and this forms another inducement for slaughter. The great antlers fetch from 100 dollars upwards. In America, as in all other countries, the man who wants to kill game is in a vast majority over those who actively assist in its preservation. There is, therefore, a serious apprehension in many quarters that its wild game animals and birds are in danger of extermination, or reduction to such an extent that specimens will exist only in parks or reservations. The realization of this position prompted the promotion of the Audobon and other such protective societies. Many serious-minded and far-seeing American men, and happily women too, are making earnest and persistent endeavours to secure proper protection for their more interesting and valuable forms of fauna. Dr. Hornaday is in the forefront of this movement. Yellowstone Park contains a herd of wapiti estimated to number eight thousand members.

A matured wapiti stag stands about 5 feet at the shoulders, is about 7 feet in length and 6 feet in girth, and weighs anything from 600 to 900 lb. An adult hind, in good condition, weighs about 500 lb.

Mr. Phillips-Wolley records a large stag as measuring 9 feet from tip of nose to root of tail, 5 feet 8 inches at shoulders, and 6 feet 8 inches in girth. Measurements of another specimen are given as follows: Length 7 feet $2\frac{3}{4}$ inches; height 4 feet $8\frac{1}{2}$ inches; girth 6 feet 6 inches: weights—trunk, 300 lb.; skin, head, legs, 253 lb.; viscera, 151 lb.; total, 704 lb. (6 cwt. 1 qr. 4 lb.).

The hair colour is not, I believe, so consistently true as that of the red deer, but varies considerably in individuals apart from the changes caused in its appearance by the shedding of the winter coat. The fine hairs of his head are a chestnut brown, deepening to a rich chocolate brown on his neck. The body colour is creamy, excepting the under part of the belly, which is very dark brown approximating to black. The colour of the legs is somewhat similar to the hair on his neck, and there is a dirty whitish, or pale cream, distinctive patch on the rump. The colouring of a wapiti, with its new winter pelage, has a decidedly variegated appearance.

The head of the wapiti is well formed; its eyes are of medium size, ears large, but not conspicuously so, as are those of the mule deer. Its lachrymal duct is large, its neck somewhat short. The head is carried high owing to the upright neck, and this gives a nobility of style to his fore part. His general contour is, I think, somewhat marred by the slight appearance of drooping of his hind quarters and his very short tail.

The wapiti stag lacks that smart, alert appearance which is so characteristic of the red deer stag. He is also less shy, more easily approached and slower to appreciate danger and get away. Some writers affirm that, with all his size, weight, and large antlers, the



Photograph by Underwood and Underwood.]

THE LATE THEODORE ROOSEVELT AS A RANCHER AT DAKOTA.

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wapiti stag is not a noble animal, and that when danger besets the herd he selfishly looks after himself and, slinking off, leaves the hinds and calves to take care of themselves, making no attempt to lead the herd out of a difficult position, as does the bonnie red deer stag.

Although in his wild state afraid of man, in semi-domesticated conditions he is unreliable and dangerous and especially so during the heat of the rutting period.

The wapiti has a keen sense of smell, quick hearing, and good eyesight, and in these respects he is perhaps equal to the red deer.

I venture the opinion, with considerable diffidence, however, owing to my small experience with the wapiti, that this stag does not compare favourably with either the moose bull or red deer stag as a sporting animal.

The wapiti stag is a good walker, and when he takes alarm he breaks into a quick trot and covers a lot of ground in a short time. He can maintain a high rate of speed for hours and negotiate rough country without apparently slackening speed. When pressed he will break into a heavy gallop for a short distance, but very soon reverts to his favourite motion of trotting. When running, or walking for that matter, the wapiti stag makes a deep imprint, especially with his large fore hoofs, and his slot is readily identifiable and easily followed.

The disposition of the wapiti prompts him to feed in the daytime, and in his indigenous environment he does so. In this respect he is a notable exception to other deer. However, encroachment of settlement on his preserves and frequent hunting and disturbance caused him to change his feeding custom and—like other deer—to feed during the night time. Wapiti

are omnivorous eaters and although they live mostly on arboreous food they can maintain themselves in good condition solely on herbaceous plants, or grasses. In their wild condition they are observed to begin feeding at dawn and to continue until about 11.30 a.m. or noon, when they lie down to rest. Rising at from 3.30 to 4 p.m., they resume feeding until dusk. The flesh of wapiti when in good condition is edibly acceptable and nutritious. When the animals are killed during the rutting period, the flesh is dark, dry, and uninviting. In some parts of America wapiti are kept in confinement and it is stated that, like some other ungulates, they can be profitably bred in domestic conditions for food purposes.

Their antlers are long, wide and massive; the normal number of points on the head of a matured stag is twelve, but sometimes this number is exceeded, and I have seen heads with sixteen well-defined tines. On the whole, the reproduction of wapiti antlers is, I think, more consistent in form than is those of red deer; they are cylindrical with the exception of the tops, which flatten somewhat. The tops do not crown as do the surroyals of red deer, but occur one behind the other. An aberrant condition sometimes causes a fairly heavy palmation of the upper section.

Mr. Phillips-Wolley records wapiti antlers as measuring $62\frac{1}{2}$ inches in length, with a spread of $48\frac{1}{2}$ inches.

Sir Henry Seton Kerr gives a measurement of antlers as—length 61 inches, spread 52 inches, girth between bay and tray 8 inches.

One other head is given as being $62\frac{1}{2}$ inches in length, $48\frac{1}{2}$ inches in spread, girth between bay and tray 8 inches.



WAPITI STAG : MARCH.

Having shed one antler ; winter's coat also in process of shedding.

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TABLE OF ANTLER MEASUREMENTS 161

A pair of good antlers was secured in the United States which weighed 60 lb. on the bare dry skull.

Some of Rowland Ward's measurements :

Wapiti.	Points.	Length.	Span.	Spread.	Tip to tip.	Girth.	Killed.
		Inches.	Inches.	Inches.	Inches.	Inches.	
Northern America	7 × 6	64½	45	52	31½	8	—
" "	7 × 7	63½	45½	52	39	8	Wyoming
" "	17	62½	46½	55½	—	8	" (Millais)
" "	7 × 7	62	50½	—	33½	7½	Colorado
" "	6 × 6	57	55	57½	52½	6½	Montana
" "	6 × 6	54½	51	60	50½	6½	—
Tien-Shan wapiti	10 × 9	60	45½	70	62½	8½	Tien Shan
(<i>C. canadensis</i>)	7 × 6	54	46¾	50½	49	7½	" "
(<i>songaricus</i>)	8 × 7	51	51	55	44½	8	" "
Baikal wapiti (<i>C.</i>)	8 × 7	50¾	38½	—	29½	6	{ Duke of Bedford
(<i>c. sibericus</i>)							
Siberia	6 × 6	46½	40½	—	34	6½	—

Table of normal development of the wapiti :

18 months old	. .	2 spikes.
2 " "	. .	2 uprights and 2 brow tines.
3 years	" .	6 points.
4 " "	. .	8 points.
5 " "	. .	10 points.
6 " "	. .	12 points, the normal complement:

Each spring there are thousands of wapiti antlers shed in Yellowstone Park, and I there saw a pretty cottage which was enclosed with a fence of cast antlers ; a quaint-looking pergola had also been constructed of them. Wapiti in the United States drop their antlers in March and April and almost at once the new growth shows on the pedicles, looking like a reddish-coloured pulpy mushroom ; this steadily increases until it matures to the full length of the forthcoming antlers. This mass of inflamed earthy matter is covered with a shiny skin, which in turn throws out

a protective covering of fine hair, termed velvet, which lengthens coincidently with the diminishment of antler development, so that when the antlers are fully grown and the vitality which produces them decreases the velvet reaches its fullest measure of perfection. During the growth of new antlers the stags are spiritless and remain quiet and alone and are not in the humour to interfere with the hinds or their newly-born calves. As the antlers harden in July the velvet is of no further use and it begins to crack longitudinally and peel off, the process of removing it being expedited by the stag rubbing it against quaking asp, or ash and spruce trees. In the backwoods of the States this fraying process is termed "shaking" or "thrashing," and the fraying-grounds are termed "thrashing-grounds."

After the velvet is removed, the stags lie in the sun and American sportsmen say that they are then "hardening their horns." In August and early September the antlers are clean and in perfect condition ready for the riot of fighting which takes place during the rut in late September and early October. During the replacement of antlers by the stags wapiti of both sexes shed their summer coats, and they then rapidly put on condition after the respective exhaustive operations of antler and calf production. With his new antlers and new coat the stag adopts new manners; his meek demeanour disappears and he regains his majestic pride and assertiveness. The calves are by this time quite capable of keeping clear of him. The cessation of antler production causes a strong flow of life-giving blood to the generative organs and creates a keen carnal desire which results in the rut. This orgie of lust continues for about five weeks.



WAPITI STAG : MARCH.

Both antlers have been shed.

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The wapiti stag being polygamous in his desires acquires a large harem, and in about ten days he is thoroughly exhausted and has lost a good deal of weight. As the old stags become weak the younger ones come forward and supplant them, and often return, with interest, the buffeting they received from the master-stags. During the rutting period the necks of the males swell very considerably, and at this time the animals exude a strong odour.

The stags call to the hinds by whistling, or bugling. This call is altogether different from the roar of a red deer stag; it opens with a sound resembling a squeal on high C and drops to a hoarse sound like the bray of an ass, often terminating with a deep grunt; the latter is perhaps intended as a defiant fiat to any other old stag who cares to come along.

There is a very considerable difference of opinion among American writers as to the times when the casting and reproduction of antlers, the shedding and renewal of pelage, and the rutting and calving take place. The following Table of Dates prepared by Dr. Hornaday is most interesting as fixing the periods for these processes under known artificial conditions. The wapiti which were under his close observation were in confinement in the New York Zoological Park in Bronx. They were therefore having food of a different kind and quality from the wild wapiti and also lacked their health-giving exercise. The environment and general conditions of the confined animals might perhaps retard the annual changes of nature for a few weeks, more especially as regards the rut; but on this point I have no information.

There may be, and perhaps there is, a variation in time of the process of antler-shedding occurring as

between Northern Canada and the mid or southern United States, due to climatic causes consequent on the difference of latitude; but it is hardly likely to extend to so wide a period as five and six months as different writers would make it appear.

Dr. Hornaday's calendar :

- Jan. 1st. Pelage showing perceptibly paler.
- Feb. 1st. Pelage lost lustre and begins to look weathered.
- Mar. 21st. Antlers dropped by old bull, 9 hours apart.
- Apr. 8th. Each budding antler looks like a big brown tomato.
- Apr. 18th. New antlers about 5 inches long, thick and stumpy.
- Apr. 30th. Three branches on each antler.
- „ „ Calf born, well spotted, height 26 ins, length 35 ins., weight 30½ lb.
- May 10th. Shedding antlers in full progress.
- June 1st. Shedding about half finished.
- June 18th. Antlers full length, but club like, well haired, tips flat.
- July 20th. Antlers now sharp at tips, flies troublesome.
- Aug. 1st. Entire herd free of winter pelage, red summer coat, velvet still on antlers. Spots on calves gone and white rump patch fully developed.
- Aug. 15th. Two big bulls began to rub velvet from antlers against trees.
- Aug. 22nd. Antlers of one bull almost clean, but velvet still hangs in tatters. Tips pure white, base looks bloody.
- Sept. 15th. Summer coat completely shed.
- Oct. 1st. The herd at its best. Antlers clean and perfect, pelage long, full and rich in colour. Mating season now on. Bulls aggressive and dangerous. Calves active and playful.

Mr. St. George Littledale, of Wick Hill House, Bracknell, England, the well-known big game hunter, visited New Zealand about 1902, when I was fortunate enough to meet him. He was very much interested in our game importations and spoke enthusiastically of possibilities in that respect owing to the climatic



WAPITI STAG : APRIL.

Regrowth of antlers has commenced. Pelage dry, rough, and falling off.

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and mountain conditions of New Zealand, which he considered excellent for many kinds of game animals, especially for deer and goat. He kindly expressed his willingness to help me in securing different kinds of animals for the Government, and he has been one of New Zealand's best friends in this connection. On his return to England, Mr. St. George Littledale maintained correspondence with me, and he went to considerable personal trouble in the matter of securing game animals. In 1903, he made the pathway clear for the Government to secure elk, Caucasian and Carpathian deer, Asiatic wapiti, ibex, and markhor; but I regret to say the matter was not followed up as promptly as circumstances required, and the opportunities of securing some, or all, of these varieties were lost. However, nothing daunted he pursued his efforts, and in 1904 he obtained, through the kind courtesy of His Grace the Duke of Bedford, a present of six Himalayan tahr from Woburn for New Zealand. Two males and three females reached their new home in good condition. They were liberated near the Hermitage, Southern Alps.

Mr. St. George Littledale did not relax his efforts with this initial success, but the same year he approached the late Theodore Roosevelt, then President of the United States of America, and arranged with him that New Zealand should receive ten wapiti from the National Zoological Park in Washington, D.C., in exchange for some of the rare and peculiar birds and tuatara of New Zealand, and some European game animals, "chamois preferred." The exchange was intended to be more or less of a formality to comply with the law controlling the administration of the National Park, which does not permit of its animals

being given away by even so important a personage as the President.

On the 13th January, 1904, Mr. Roosevelt wrote to Mr. St. George Littledale :

“The enclosed copy of letter shows that we are all right about the wapiti for New Zealand. You want three males and seven females. Under the law I shall have to ask for animals valued \$300 from New Zealand Government in exchange. I shall accept their own valuation of anything sent me. They can order any wild beast collector to send me some animals, if they have not got any. If it were possible for them to send me, or procure for me, some chamois in exchange, of course I should rather have them. It would be well to have the New Zealand people act at once.”

Enclosure :

“SMITHSONIAN INSTITUTE,
“WASHINGTON, U.S.A.

13th January, 1904.

“THE PRESIDENT,
“WHITE HOUSE.

“DEAR MR. PRESIDENT,—

“I am informed by the Superintendent of the National Zoological Park that it has of the wapiti, beyond its actual needs :

10 adult females, 1 three-year-old male.

2 calves of 1903, males.

These under the law are at your disposal for exchange, their value for such a purpose being about thirty dollars each. If the New Zealand Government has no animals for exchange it could engage some dealer to furnish others of a like value.

“With great respect,

“(signed) S. P. LANGLEY.”



WAPITI STAG : MAY.

The beams and brow tines are clearly indicated.

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Mr. Roosevelt's desire for chamois could not be met; New Zealand was then unable to obtain any for herself. He therefore suggested that some roe deer should be sent to the National Zoological Park Washington, D.C., in formal exchange for the ten wapiti. An order for some specimens was accordingly placed with a game dealer in London by the High Commissioner, and the animals were in due course sent there. Shortly after their arrival I was in Washington and found that two of the roe bucks had been castrated before being purchased in London, and the other bucks had died of pulmonary disease shortly after reaching Washington.

For his valuable assistance, tendered voluntarily and cheerfully, New Zealand owes to Mr. St. George Littledale a deep debt of appreciation.

In 1904, I was commissioned by the New Zealand Government to proceed to the Louisiana Purchase Exposition as Commissioner General for New Zealand. When I was in the United States I made arrangements on behalf of my Government for taking possession of the ten wapiti from the United States Government and transporting them to New Zealand. In this connection I had an interview in St. Louis with the late John Hay, Secretary of State. I found him quiet, reserved, and punctilious, not to say officially stiff. After we had conversed for half an hour, I rose to leave and, when shaking hands with him, I said: "I'm pleased to have met the author of *The Pike Country Ballads*." He laughed for the first time, a pleased, jolly, human kind of laugh and asked: "What do you know of them?" I answered, "I know most of them by heart. Would you like to hear me recite them?" He replied, "Oh no, no!"

We shook hands again, sat down and talked again. He was exceedingly pleased that a New Zealander should know his ballads, so much so that he sent a request for Mrs. Hay to come to the room in order that I might meet her.

I was accredited by Mr. John Hay to the President, with whom I had an interview in White House, Washington, on the 22nd October, 1904. In his general remarks President Roosevelt stated :

“ I take a very great interest in New Zealand. It has done very much to solve the problems respecting labour ; it has gone much further in this direction than any other country. It has dealt with social questions in a very bold and conclusive manner. I have watched its legislation very closely and with considerable interest. In my opinion it has gone on sound lines and I am very pleased to hear of the success of its, if I may term it so, social legislation. I greatly approve the granting of Old Age Pensions. There are many reputable persons who, from a variety of causes, cannot make adequate provision for their old age, and it behoves the State to assist in such cases. These pensions should be given as a matter of right and not as a charity. The older world has a great deal to learn from New Zealand. I am very much interested in it, and I am hoping to visit it some day.”

He also expressed his strong personal interest in the projected experiment of introducing American game animals into New Zealand, and materially assisted me by giving instructions that the Government officers were to afford me all the help possible in collecting and forwarding the animals. I met Mr. Roosevelt on several other occasions, both in Washington and New York, and each time he



WAPITI STAG : MAY.

The bay tines now appear, and the beams have lengthened. The old pelage being replaced by new growth.

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expressed hopes for the success of my undertaking, and said that he would closely watch results. In addition to the ten wapiti received in exchange, I purchased ten other wapiti from H. E. Richardson. I then went to New Hampshire and there purchased nineteen Virginia deer, and from Santa Fé I secured five mule deer, all of the latter variety that I could get at the time. From other sources I purchased fifty Canada geese, snow geese, Hutchin's geese, canvas back, wood, pintail, black duck, widgeon, and mandarin ducks.

The waterfowl reached New Zealand safely and were distributed amongst the various Acclimatization Societies, and utilized as show birds in their respective gardens. The Canterbury Society is, I am informed, the only one to breed successfully the Canada geese from this supply, and this, I believe, was done with only a pair of the imported birds to begin with. This goose is now well established in a wild condition in the Canterbury and Otago districts. I am of opinion, however, that better general results would have been obtained had the whole of these waterfowl been liberated in a suitable locality, far away from the pot-hunter, and allowed to return to wild conditions instead of making pets of them.

On the courteous invitation of Dr. Frank Baker, Superintendent of the National Zoological Park, at Washington, the Virginia deer, wapiti, mule deer, and birds, which I had purchased, were assembled in the park along with the twenty wapiti, and with the assistance of his staff they were all made ship-shape for their long journey.

In connection with assembling and putting the animals and birds into crates in Washington, I had

engaged the assistance of a Virginian cow-boy. One morning I asked him why he wore his "gun" (revolver) hanging so low down in front of his thigh, where it appeared to be very much in the way of his activities? He replied, with the slowest of slow drawls: "Wal, yer see, it's like this, there comes a time *once* in yer life when you want yer gun, and then yer want it in a hell of a hurry."

The wapiti were placed in crates of my own design, and these proved to be entirely satisfactory. A good deal of forethought was necessary to provide a sufficiency of the various kinds of foods required, without having an excess. This large consignment of live stock was loaded into two covered steam-heated wagons, each 60 feet long and 8 feet wide, hired from the Adams Express Coy. Mr. Fred Moorhouse, of the New Zealand Government Tourist Dept., was placed in charge of the game and had two assistants with him. At 3.30 p.m. on Saturday, the 11th February, 1905, I saw this valuable congregation of American fauna commence its journey of 9,295 miles. Snow had fallen for the previous three days and it had frozen hard; icicles, too, hung from house roofs and the tops of railway cars. I was pleased to see the first part of our efforts brought to a successful conclusion and the game actually under way. The bringing together at Washington of the animals and birds, crating them, securing food, and attending to the many details, entailed constant thought and activity during the last week. One slight mishap only occurred, and that was the non-arrival of two casks of "diamond-back" terrapin from Chesapeake Bay, which were delayed by snowstorms, and were in consequence too late for shipment.



WAPITI STAG : JUNE.

Here the brows, bays, and trays are almost fully developed with indications of top tines. Condition of stag improving.

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All other arrangements dovetailed to a nicety.
The consignment comprised :

- 20 wapiti, each in a separate crate.
 - 22 Virginia deer, ,, ,,
 - 5 mule deer, ,, ,,
 - 50 Canada geese.
 - 61 geese and ducks (various), in 13 crates.
 - 5 raccoons
 - 2 horned owls
 - 2 barred owls
- } presented by the National Zoological Park,
Washington.

The train journey from Washington to San Francisco, a distance of 3,361 miles, occupied seven days, during which a heavy blizzard was encountered; but the animals and birds were very comfortable in artificially-warmed railway wagons, and no loss occurred. I had already made a contract with the Spreckle's Company in San Francisco to carry this consignment by one of their steamers on a mutually agreed date, and remembering the Vancouver-Sydney contretemps with the moose, I had stipulated for its being placed aft on the steamer.

From Washington I went to New York and there received a very disquieting telegram from Moorhouse, informing me that the Shipping Company would not take the animals and birds by the steamer arranged for, and wanted to hold them in San Francisco for a following steamer sailing three weeks later, and that in any case they could not carry them on the after part of the vessel. This was a bombshell indeed, but after much telegraphing to the Shipping Company, I had all difficulties removed and the officials of the Spreckle's Company were very helpful in the matter. My troubles, however, were not quite over, for when in San Francisco I had arranged for payment of freight

charges forward by the Government in New Zealand. At the very last moment I was informed that the animals and birds would not be shipped unless their freight was prepaid. The item was a comparatively large one in dollars, and when I had paid this entirely unexpected charge, I stood outside the shipping agent's office in New York City moneyless, not having a dime left in my pockets. Two weeks later, when in London, I received a cablegram from Moorhouse announcing his arrival at Honolulu, and stating that, shortly after leaving San Francisco, three of the Virginia deer had died of gastro-enteritis. All of them had contracted this disease and scoured very badly, but fortunately the others survived. The intestinal trouble was no doubt caused by chill. The transition from steam-heated cars to the open deck of a steamer in mid-winter caused me to apprehend difficulty of this nature, and medicines were supplied to Moorhouse to meet such a contingency. On nearing New Zealand the steamer ran into bad weather and heavy seas and was knocked about a good deal, causing the death of two of the wapiti from broken spines.

On reaching New Zealand the eighteen wapiti which remained alive were transferred to the Government yacht *Hinemoa*, and conveyed to George Sound, Fiordland National Park, where they were released; one of the hinds died ashore near the landing-place, and I saw her skeleton there in 1909. The other wapiti appeared to have acclimatized and bred, as I observed numerous footprints of young wapiti and calves. I also walked almost on top of a large stag. He was lying in a moss-covered depression within a few hundred yards of the sea beach where the wapiti



WAPITI STAG : JULY.

The general development of antlers continues. New pelage lengthens.

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were released in 1905. He did not see or hear me approach, and I did not see him until he sprang up within ten feet of me: after his first rush he betrayed no fear and stood in a creek not more than twenty yards off while I, standing in full view of him, quietly admired him. He had very fine antlers, long and wide, with a full covering of velvet. I drove him towards the beach, just as one would drive a domestic bull, but coming on to some passengers off the *Hinemoa*, he turned aside and stood on the face of a hill calmly watching them for awhile. He was very tame and doubtless one of those imported from Washington.

In this out-of-the-way corner of the world, enjoying splendid isolation without risk of molestation, the wapiti ought to thrive and the stags should develop antlers of great size. Information of their progress from time to time would be of considerable interest to zoologists as well as to sportsmen throughout the world.

It is, I think, likely that the important periods in the life of the wapiti in New Zealand will approximate to the following dates:

1. Shed their antlers in September and early October.
2. Reproduce them clean in February and early March.
3. Rut about the third week in March and continue until mid-April.

The stags will probably begin to bugle early in March and continue doing so until mid-April.

4. Winter coat entirely replaced by summer pelage in February and March.
5. Calves born September-October.

In America wapiti calves are for the most part born in May and are then spotted white. Old hunters say that the calves when dropped do not give off any odour which may be detected by wolf, puma, or lynx.

In days gone by the Red Indians hunted the wapiti for meat and hide. They either ambushed the deer when they were on the move and killed some with bows and arrows, or frightened them over a precipice. Another method was to chase them on horseback and shoot them at close range. Hunters say that when moving ground wapiti are usually led by one of the old stags and the herd follows him with confidence; if he is killed the remainder break up in confusion.

The wapiti stag cannot stand up to a bullet as does the red deer stag, or even the mule buck. He crumples up very readily when hit hard.

Mr. "Wah-Bah-mi-mi" has a high opinion of the beauty of the wapiti stag, and in half a dozen poetic verses sings loudly in his praise. I quote the first verse:

"Crowned king of hill and woodland green,
With horns branching wide,
In majesty he bounds along,
Peerless in antler's pride.
He stands in beauty all alone
'The monarch of the glen.'
A giant, dwarfing into naught
The lordliest stag of ten."

Wapiti, both stags and hinds, have been used in harness for drawing vehicles and sledges.

In captivity hind wapiti may ordinarily be as tame as milking cows, but when the rutting period comes they are not to be relied upon, and have been known to attack and seriously injure men with their fore feet. The wapiti can, like the moose cow, protect her young against bear or mountain lions with her feet.

When alarmed wapiti stags behave somewhat after the manner of red deer in that they at first make off



WAPITI STAG : AUGUST.

Antlers have almost attained full growth, hair longer, condition improved, and the stag is exercising his vocal chords.

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quickly for a short distance, then stop and turn to ascertain more definitely what frightened them. When satisfied that danger threatens, they make away at a fast strong trot, which they can maintain for many hours.

Rhoades says that when pressed by dogs a wapiti "bull" will take refuge on a rock and as long as the dogs bait him he will take little notice of men, and in these circumstances he is sometimes doubly lassoed, and is then easily held by two men on opposite sides of him. Most of the American writers refer to wapiti stags as "bulls" and to the hinds as "cows," incorrectly premising, as they do, that the animal is an elk.

The whistle of a matured wapiti stag can be heard for fully a mile in favourable conditions.

Wapiti are gregarious and have the family instinct, and in these respects they resemble the red deer. They are fond of salt and regularly herd in the vicinity of "salt-licks."

With the view of ascertaining whether the wapiti and moose which were liberated in George and Dusky Sounds respectively had thriven, the Government sent Inspector Fred Moorhouse to examine those localities. He was accompanied by Messrs. J. K. Wadsworth, representing the Southland Acclimatization Society, and L. Hinge, a photographer.

Moorhouse's party left Bluff in the motor schooner *Britannia*, 30 tons, on the 12th February, 1921. They were delayed by gales and reached George Sound on the 20th idem. The following day they went into the forest and saw a wapiti hind with calf at foot. At Dusky Sound they had a clear view of a moose cow with a well-grown calf. Other deer were seen a

long distance off, but not distinct enough to identify the variety to which they belonged.

It is stated that *evidences* of the existence of deer in fairly large numbers were seen, presumably slot, fewmets, and the croppage of plants and trees.

The party started on the return journey on the 10th March. Had the members of this expedition been a month later, they would have reached George Sound on the 20th March, probably just as the rutting period commenced, and the opportunities of assessing the probable success of acclimatization of wapiti and moose would have been much greater owing to the whistling and bugling of the stags and bulls and calling of the cow moose.

In March, 1923, the Government of New Zealand, for the first time, granted licences to kill wapiti and moose that were released in Fiordland National Park. Two licences only were issued, each covering the right to shoot not more than one moose bull and two wapiti stags.

In a letter received from Mr. Vivian Donald, of Masterton, Wairarapa, he informs me that he was accompanied by R. Murrell and secured three wapiti stags. The additional stag was killed for the Government and its head is on exhibition at the British Empire Exhibition along with the head of the first wapiti killed in Fiordland.

The measurements of the antlers are as follows :

—	Points.	Length.	Spread.	Beam.	Weight of antlers on green skull.
		Inches.	Inches.	Inches.	Lb.
1	14	53	47	7 $\frac{1}{2}$	34
2	15	49	53 $\frac{1}{2}$	6 $\frac{1}{4}$	27
3	11	48	40	7	35



WAPITI STAG : AUGUST.

Antlers fully developed and the velvet is peeling off. Hair sleek in appearance, neck ruff lengthening and darkening.

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The first stag was killed at the head of Lake Katherine, not far from the head of George Sound where the wapiti were released.

In March, 1924, Mr. E. J. Herrick and his wife stalked wapiti in Fiordland and killed three stags, one of 18 points falling to the rifle of Mrs. Herrick.

Their measurements are as follows :

—	Points.	Length.	Spread.	Beam.	Coronet.
		Inches.	Inches.	Inches.	Inches.
1	14	58½	46¼	7	13½
2	13	50	41	7	11
3	18	47	41½	7¼	12¾

Mr. Herrick writes that he saw two wapiti hinds enjoying a quiet swim in Lake Katherine and that during their trip his party saw five hinds and five stags only. They first heard bugling on the 24th March.

The wapiti stags killed in Fiordland are the first that have been shot in New Zealand under sporting conditions, but, as far back as 1873, the late Sir George Grey, formerly Governor of New Zealand, imported a stag and hind wapiti and released them on the Island of Kawau where he resided. The hind died, and the stag becoming unruly was shot.

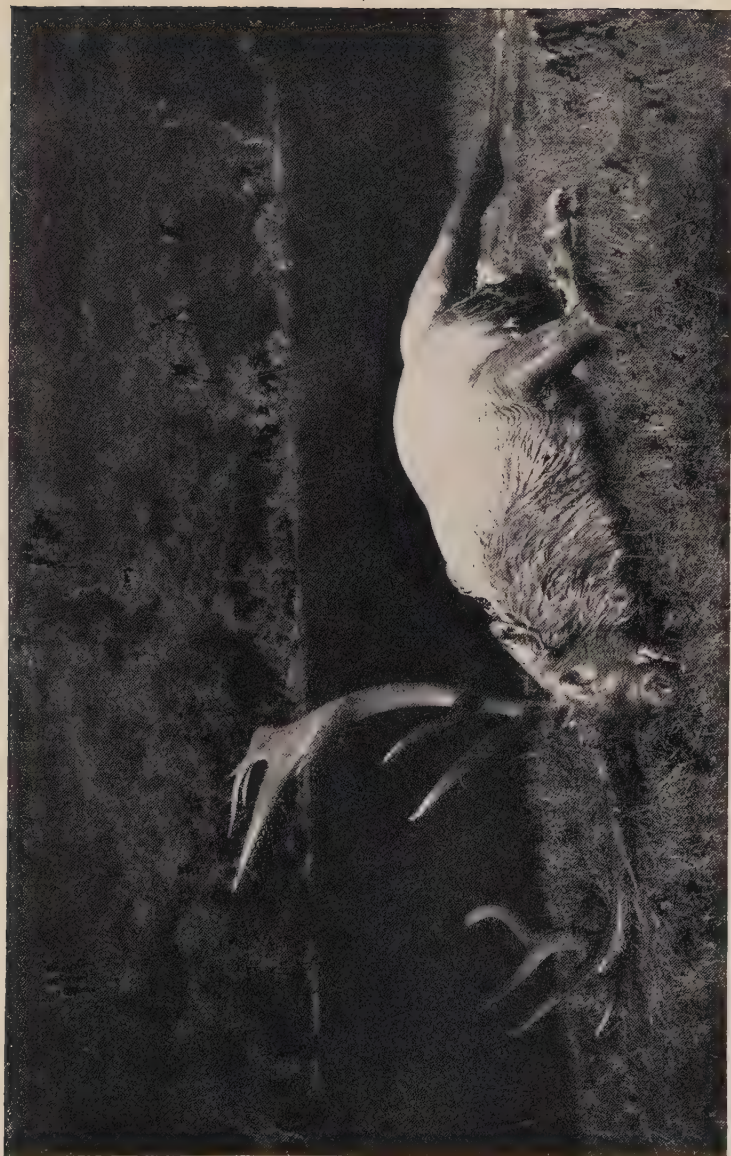
The Americans do not, excepting under rigid conditions, permit the carrying of rifles or guns in their National Parks nor the access of dogs. Yellowstone Park is a sanctuary for animals and birds and protected by the military. The taking of firearms or dogs into Fiordland National Park, New Zealand, is prohibited by Regulation. The admission of sportsmen to this park for the purpose of hunting moose and wapiti necessitates their carrying rifles, but it is to be hoped that for the protection of the native

birds, the carrying of guns and the admission of dogs will be strictly enforced.

Diana of the Prairie.—At the tail-end of a bright afternoon I reached a cattle ranch on the prairie in the Far West of the United States. After a wash and brush up I walked towards the cattle yards and saw a horse and rider approaching; as they came near I observed that the latter was carrying the head of a wapiti stag on the front of the saddle, and the skin of a black bear was disclosed slung and secured across the horse's loins. On stepping forward to give a helping hand in taking down the head, I found the "hunter" to be a huntress; a slightly-built, good-looking young girl who was riding astride. She wore a wide-awake felt hat, a bright-coloured neckerchief, brown jacket and breeches, and high boots of doeskin. On her back she carried a Winchester repeating rifle and had a revolver in a leathern holster on her right thigh. She told me that on the previous day she had ridden over thirty miles to a ball, danced all night, and at dawn had gone "huntin'," shot the "elk," and on her way home had come on to the "bar" (bear) near a "crik" (creek). She showed me a new hunting knife which "poppa" had given her, and added, "It's a dandy, I just *had* to blood it on somethin'." When she appeared at the tea-table later on, she had changed into feminine attire and looked very dainty and pretty. The ranch house, which was constructed of logs, was well adorned with the heads of wapiti and pronghorn and dried bear skins.

The scene of the following wapiti story is laid in America, the "home-land" of artistic showmen:

Way down South, in a rural district, a circus was pitched. As is usual the equestrian performance was



THE FIRST WAPITI STAG KILLED IN FORDLAND NATIONAL PARK, NEW ZEALAND.

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the main attraction, although not the only money extractor, as there were many "side-shows," those treasury-helping *et ceteras* which afford the Yankee spieler a good opportunity of exercising his keen wit and subtle humour in the process of talking the money out of one's pockets. Among the visitors was Silas P. Hazel, a small man with a large wife and numerous progeny. His family had seen nearly everything in the circus and wanted to see the remainder, and in this desire they were sympathetically supported by their mother. Silas was perplexed, the cost of the many extra shows had depleted his pocket-money and it therefore became necessary to economize by cutting out the Legless Woman, giving the Hairy Ainus the go-by, and avoiding the Living Skeleton. By a strategic movement Silas had "gotten" his family within sight of the exit gateway, an unpopular sight to them, when a tall, thin, long-nosed young man espied the party and immediately laid siege to their attention. Pointing to a large poster, in vivid colours, that held the presentment of a wapiti with big antlers of many points, he expatiated on the outstanding features of the Great "Elk" in such glowing terms that the heirs and heiresses of Silas were crazy to see it. In his dilemma caused by the desires of his children and his shortage of cash Silas determined on a bold course, and going to the offices asked to see the manager on a business matter. That august personage looked down at Silas and grunted, "Wal, watcherwant?" Silas told him that he had a somewhat large family who wanted to see the Great "Elk," but as he was short of money he wanted to know if it were possible to arrange for admission on wholesale terms. The manager gazed at Silas from beneath a shiny silk hat

with curly brim and over the smoke of a fat cigar said :
“ Your children want to see the Great ‘ Elk,’ do they ?
Wal ! I don’t know about this discount proposition :
how many are there anyhow ? ” Silas, meekly,
“ Seventeen.” The manager, in amazement : “ Seven-
teen ! Hully gee—Don’t you worry about going in
to see the Great ‘ Elk,’ I’ll bring him out to see *you*.”

CHAPTER XIV

THE INTRODUCTION OF VIRGINIA, MULE, AND SIKA DEER, AND TAHR

THE VIRGINIA DEER (*Cervus virginianus*)

THE Virginia deer is known in the United States as "The Whitetail," Red deer, Common deer, and "Karjacow." Old hunters termed the bucks the "Shovel-horned deer."

When I was in the United States I had the pleasurable and successful experience of still-hunting Virginia deer and also took part in a forest drive of them, when I had the luck to kill three bucks in three successive shots, as they were scampering off at top speed. Their beauty, litheness, and quickness appealed strongly to my sporting sense, and from information which I gathered I concluded they would be very suitable for New Zealand; therefore, in the exercise of the discretionary power given me by my Government, I purchased twenty-four individuals from a large healthy herd in New Hampshire. To catch Virginia deer in the summer-time would be like trying to catch a will-o'-the-wisp; it therefore became necessary to defer catching operations until winter had spread a heavy white mantle over the land. In this instance, preparations were made by the construction of a large pen formed by letting the lower ends of poles, props, or "rickers" into the ground, fastened together on their

outer side so as to avoid giving the deer any foothold whatever inside, as their reputation as jumpers is deservedly high. To this pen there were extended wings converging to the gateway. After a fall of nearly three feet of snow had occurred, over a hundred Virginia deer were driven into the pen, and from this lot twenty-four were selected for New Zealand. The deep snow prevented their jumping and they were easily captured without sustaining injury. For some reason two short were delivered at Washington, so I was able to dispatch only twenty-two instead of twenty-four. These stood the journey to New Zealand very well, and three deer only were lost. Nine Virginia deer were liberated on Stewart Island, where they have thriven well, and reports recently received record that they have increased very considerably. Nine were liberated on the western side of the head of Lake Wakatipu, and one, a buck, was sent to Motueka, Nelson, to supplement two couples that were imported in 1901 and released in the Takaha Valley. The Virginia deer is a pretty animal standing about 9 hands high. A buck in good condition weighs from 150 to 200 lb. when dressed, and a doe scales about 100 lb. Its coat is for the main part a bright reddish-brown, or sandy, a much brighter red than that of the Scottish red deer. As winter approaches its pelage changes to a mottled brown-grey and so remains until spring comes, when the cold-weather coat is shed and its summer colour, and fineness of hair, reappear. The head of a Virginia buck is stylishly pretty and makes an acceptable trophy. The antlers rise at an obtuse angle from the skull for several inches and then spread forward with three or four long tines rising perpendicularly from the upper sides of the curved beams.



Photograph reproduced by courtesy of the New York Zoological Society.]

A VIRGINIA BUCK ("WHITE-TAIL").

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When the head is uneven more points are produced on the left than on the right beam. It has a large tail for a small deer, varying from about 12 to 18 inches in length; on its under-side there are long snow-white hairs, and when scampering off the tail is carried erect, the under-side showing and presenting a very inviting target. In the United States the tail of the Virginia is alluded to as "his flag." To see him at his best is to watch him daintily treading his way through an open forest glade unconscious of the proximity of man; he puts his tail up to its full length and continuously twitches it, the pure white of it being thrown into striking relief against his shining red coat and the surrounding green of the tree leaves; a very pretty picture. When alarmed the Virginia deer jumps straight off the mark "as quickly as greased lightning," never hesitating for a moment to look round as do most other deer. Dr. Hornaday says that the Virginia has no superior in the whole deer family for keenness of eye, ear, and nose, and he puts the fair stalking and shooting of an old buck as being equal to killing two mule deer or three wapiti. Theodore Roosevelt writes:

"Ranged in the order of difficulty with which they are approached and slain, plains game stands as follows: big-horn, prong-horn, whitetail, blacktail, wapiti, buffalo."

Many other American sportsmen, however, rank the Virginia deer seventh in order of importance as a game animal, their preference being in the following order: moose, wapiti, caribou (two varieties), mule, Columbian blacktail, Virginia. Mr. Clive Phillips-Wolley says of the Virginia:

“ He is the daintiest woodland darling that I know, but, like most darlings, he leads you a devil of a chase through all the worst places in the world, and generally makes a fool of you in the end.”

The Virginia deer is bred for the market in the United States, and one of the breeders, Mr. R. H. Harris, of Clarksville, Texas, says :

“ After years of practical experience, I unhesitatingly state that the raising of deer is, in profitability, second only to the raising of cattle.”

The flesh of the Virginia deer is very highly commended in America for dietary purposes for sick or delicate persons because of its easy digestibility.

Roosevelt says : “ Whitetail venison is most delicious eating, inferior only to mutton of the mountain sheep ” (*Ovis montana*).

In America the Virginia deer begin mating late in October and so continue until the beginning of December. Lydekker says the period of gestation is six months and the fawns, nearly always two, are usually born in May. Shoemaker, however, gives the period of gestation as seven months, and says that the rut begins early in October and ends about 15th-20th November. Hornaday does not mention the months of rutting, he states, however, that they drop their fawns in May, therefore accepting Shoemaker's statement, that rutting begins in early October, the period of gestation would appear to be seven months. In New Zealand mating should occur in April, continue throughout May, and terminate early in June ; the fawns should be dropped generally in November or December ; some, however, probably arrive late in October. The Virginia buck “ calls ” in rutting time like a bleating calf and, on detecting man, snorts loudly.

The Virginia deer is a forest-loving animal fond of low lands, deep gullies and valleys, through which streams course or rivers flow, but always it likes plenty of brushwood ; it is, therefore, invariably shot by still-hunting, and not by stalking. To hunt the Virginia deer successfully, stealth, caution, quick eyesight, and snap shooting at close range are necessary. Of still-hunting Roosevelt says : " The highest form of hunting craft is shown in the science of the skilful still-hunter." I presume that he refers especially to hunting American game animals, as I think the opinions of those men who have tried both forms of hunting are that red-deer stalking in open country unquestionably requires greater skill and craft than still-hunting, not to speak of hunting chamois, ibex, markhor, and some of the African antelope.

Virginia deer are common in Mexico, where they are known as *Cervus mexicanus*, their average weight being about 100 lb.

The Virginia deer is commonly referred to in Canada and the United States as red deer. When I was in Louisiana a man wrote to me that he had a " red deer " for sale. Several letters passed between us concerning it. I wrote to him in an endeavour to ascertain its identity ; he maintained that it was " simply a red deer." I was not then wise on the subject, and asked him if it came from Scotland ; he answered : " I guess not, it came from Michigan." We dropped communication ; the American, no doubt, concluding that this was another example of British stupidity, while I was sure that there were more asses in the world than the one that belonged to Balaam.

Although the Virginia deer is of a delicate appearance, with graceful and dainty carriage, giving

one the impression of tenderness easy of destruction, it is surprising what a heavy shock it takes to bring them to a standstill. I have seen them make off when badly wounded as if they had not been hit. My friend Mr. E. H. Patterson, of New York, well known in America as a game hunter, shot a two-year-old Virginia buck on the Adirondack Mountains. When hit he stood stock-still for a second or so and then bounded over the stem of a windfall tree to the height of over 6 feet. Patterson concluded that he had made a miss, but on going to where the buck first stood he saw blood, and on the other side of the tree there was a good deal more. Following the slot he came upon the buck about 300 yards away and lying dead. Examination showed that the heart was split into two parts.

Rhoades says that :

“In the early days of settlement in Pennsylvania Virginia deer were trapped for food and other devices were adopted for securing them. Penalties were provided against the setting of a loaded gun and for watching for deer at night near a road.”

He also says that Virginia deer have well-defined paths to streams or rivers which were watched by hunters after deer.

The conservatism of the Virginia deer in sticking to a defined pathway prompted the method of hunting it which is known in the United States as “hounding.” Men with rifles take up positions on the banks of a river adjacent to the woods. A detour is then made by other men with dogs ; these alarm the deer which make for the river along their usual “runways,” as the Americans call them. If the deer reach the river bank they readily jump into the water and swim

down-stream in their endeavour to throw the dogs off the scent. When in the water they are shot. Canoes or boats are maintained below the scene of operations and the carcasses are recovered as they are borne along by the current.

In some of the States this practice is illegal and it is generally condemned by genuine sportsmen.

In Rhoades' *Mammals of Pennsylvania and New Jersey*, F. B. Lee says that in the early days of pioneering, when cows were scarce, the Colonists of Pennsylvania endeavoured to utilize Virginia deer as milkers in place of cows, but the experiment was not pronouncedly successful.

Shoemaker records in *Pennsylvania Deer and their Horns*, that a one-horned buck frequented the Blue Mountains, Lebanon, and Berks Counties, U.S.A., for a dozen years and left his mark there by throwing progeny with one antler only and that "unicorn" bucks were killed in the same district for years afterwards.

The original buck was believed to bear a charmed life until one day he stood on his hind feet to eat some shoots of an oak tree, when his horn was caught between two branches and he remained captive until Thomas Ney came upon him and released him with the aid of his hunting axe. Ney let the buck run for about seventy-five yards and then shot him through the heart.

"At White Deer Lake a famous white stag defied the hunters for a score of years; finally he was shot by an Indian, one Tahment Swasen, who found the meat tainted when he stripped off the hide."

Again I quote Shoemaker :

"In 1840 Jacob Quiggle shot the left ear off a three- or four-year-old 'stag' in Kearn's Gap, and in 1866 this same deer was killed by 'Black-headed Bill Williams' near the mouth of the Kammerdiner Run: therefore he must have been nearly thirty years old."

The possibility of a repetition of Quiggle's ear-marking shot happening, at the later period, to another buck does not appear to be advanced with any insistence.

The origin of the common name Virginia as applied to this deer appears to be obscure, unless it was based on its scientific name. Perhaps it was given on the same basis as Americans term a deer an elk and a true elk a deer: Contrariness. I am informed that there are fewer of these deer in Virginia than in any other State with the exception of California, Delaware, Oregon, and Nevada, where there are not any.

A few antler measurements of Virginia deer :

No.	Points.	Length.	Spread.	Tip to tip.	Cir.
		Inches.	Inches.	Inches.	Inches.
1	5 × 4	14	7	6	3
2	4 × 3	13	9	8 $\frac{1}{4}$	2 $\frac{1}{2}$
3	3 × 5	13	8 $\frac{3}{4}$	6 $\frac{3}{4}$	2 $\frac{3}{4}$
4	3 × 3	13	4	3	2 $\frac{1}{4}$
5	4 × 4	13	5 $\frac{1}{2}$	4 $\frac{1}{2}$	2 $\frac{3}{4}$
6	3 × 3	13	9	4 $\frac{1}{2}$	2 $\frac{1}{2}$

THE MULE DEER (*Cervus macrotis*)

The mule deer, or Rocky Mountain "Blacktail" (*Odocoileus hemionus*), which in some localities is known as the "great-eared deer," is a not very distant relation of the Virginia deer. It should not, however, be confused with the Columbian "Blacktail" (*Cervus columbianus*) nor the *C. californicus* of the Pacific

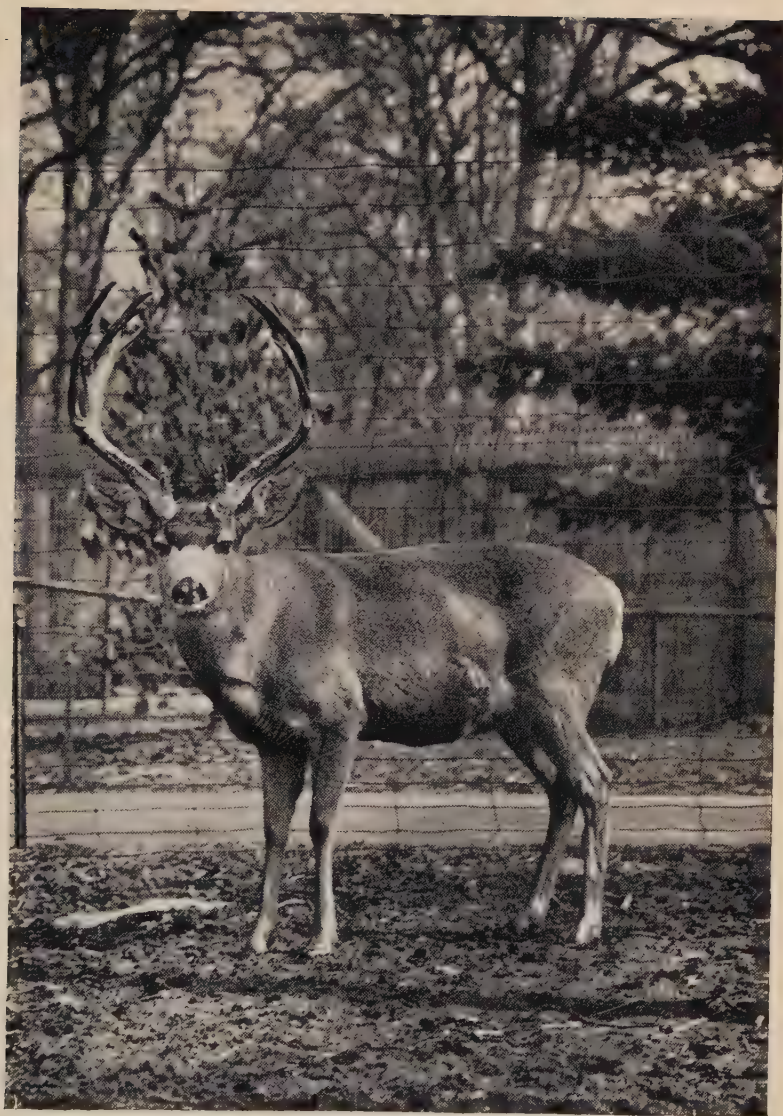
Coast. The mule deer is not nearly so plentiful as the Columbian deer or the Virginia deer. In 1905 I was able to secure five mule deer only, and these I got in Santa Fé. This deer gets its name from its large mule-like ears, which measure 10 inches in length, but its common appellation of "Blacktail" is somewhat of a misnomer as the outer side of its tail is for the greater part pure white, about 3 inches only of its point being black. No doubt the local names of "Whitetails" and "Blacktails" were given by the early pioneers, when traversing the Western plains in their "prairie schooners," to differentiate between two varieties of deer which, to them, appeared to bear a close resemblance to each other in colour, size, and shape, and, with American alertness, they seized on the two outstanding characteristics. The body colour of the mule deer is grey-brown in summer and steel-grey in winter. A good buck stands about 10 hands and weighs from 180 to 220 lb. Its antlers are somewhat similar in general shape to those of the Virginia buck and have a beam length of about 24 inches and a spread of about 30 inches; they have, as a rule, a greater number of points than the latter, and 14 points is not an unusually large number. Freak antlers have been obtained with over 30 points.

The flesh of the mule deer is edibly excellent, but is, of course, rank when killed during the height of the rutting period, or, as the Americans often term it, the "running time." This deer prefers high country to low lands, and although a forest animal, it particularly enjoys the rough, fairly open spurs just above the timber line. It feeds largely on the foliage of trees and brushwood. It is alert and knowing and, when alarmed, makes off in a series of quick, stiff-legged

jumps, which remind one of a New Zealand "buck-jumper" propping or "pig-jumping." The Columbian "Blacktail" has also the same stiff, mechanical-looking leg action. This deer is a dainty feeder of shrubs and berries. It rarely eats grass, and the Red Indians regard the *contents* of its stomach as an appetizing delicacy. It requires a good deal of activity and endurance successfully to hunt the mule deer buck, for he is an alert gentleman with quick hearing and a keen nose. Notwithstanding his stilted gait he moves quickly enough for 70 or 80 yards, and then, turning round, stands motionless for a few seconds to watch the sportsman before making his out-of-reach gallop. Boldness and cunning characterize his actions.

In respect of "making off" both varieties of the Blacktail differ considerably from the Whitetail; this little fellow makes a quick bound and gets away with a succession of long low jumps into which he puts a lot of speed. The mule deer in America mate in September and October and, the period of gestation being eight months, the does drop their fawns, usually two, sometimes three, at the end of May or the beginning of June. In New Zealand, therefore, they should mate in March and April and the does should deliver their offspring in November and December.

The five mule deer which I sent from the United States reached New Zealand in good shape and were released at Runanga, Tarawera, Hawkes Bay, on the tourist route between Napier and the Hot Lakes district. I have no recent information regarding them. They are, however, difficult to maintain away from their native habitat on account of their susceptibility to develop gastro-enteritis. The Columbian Black-tails are numerous on the Pacific Coast and Vancouver



Photograph reproduced by courtesy of the New York Zoological Society.]

A MULE DEER.

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Island. Live specimens are readily obtainable, they travel well and would be eminently suitable for New Zealand where there is ample room for them in Fiordland National Park.

Dr. Hornaday says that the Columbia deer cannot live on the Atlantic Coast of America and that experiments were made with fifteen specimens drawn from Oregon, Washington State, and British Columbia, but all of them died of gastro-enteritis. The climate of New Zealand closely resembles that of the Pacific Coast of America and therefore might prove quite suitable for this variety of deer.

In their native habitat mule deer ascend high up on the mountains in summer and frequent the shrub lands above the forest line, but in winter they descend to the river flats and other sheltered localities. These changes are, doubtless, influenced by climatic conditions and therefore may not be followed in New Zealand where the temperature is so equable.

SIKI OR SICA DEER

In 1905 the Duke of Bedford presented six sika deer, bred at Woburn Abbey, to the Government of New Zealand. He informs me that their progenitors were imported from Manchuria for him by the late Carl Hagenbeck, of Hamburg, in 1898. In his letter to me His Grace adds :

“The Manchurian sika is the same deer as the Japanese deer, but considerably larger. If no other Japanese deer have been imported into New Zealand it will be interesting, as you will then have none but the pure-bred Manchurian type.”

Sika are of the sub-genus *Pseudaxis* which includes

the Manchurian, Japanese, and Pekin deer (*Cervus hortulorum*), which is slightly larger than the Manchurian, and the Formosan deer (*Cervus taëvanus*), which is of a size with the Japanese deer.

The variety sent to New Zealand is classed as *Cervus sica mantchuricus* or *manchuricus*; the average adult male stands about 3 feet at the shoulders and weighs 170 to 180 lb. Their relations, the Japanese variety *Cervus sica typicus*, stand about 2·9 feet and weigh 160 to 170 lb. The sika is compactly built, agile and natty with graceful symmetry; fond of the seclusion of the forest, wary and difficult of approach; strong, healthy, hardy, they increase rapidly, twins being common.

In summer their pelage is a chestnut red, well spotted with white. In winter the white spots disappear, the hairs become darker and uniformly brown in colour. The tails of the sika are longer in proportion than are those of the red deer. Their antlers produce four tines on each beam, the tray being present, but no bay is produced. Rowland Ward gives these measurements:

—	Points.	Length.	Tip to tip.	Girth.
		Inches.	Inches.	Inches.
<i>C. sica manchuricus</i> {	4 × 4	26	13 $\frac{3}{8}$	4 $\frac{1}{4}$
	4 × 4	23	18 $\frac{1}{4}$	3 $\frac{1}{2}$
	3 × 4	23	15 $\frac{3}{4}$	5 $\frac{1}{4}$
	4 × 4	28 $\frac{3}{8}$	18 $\frac{1}{4}$	3 $\frac{1}{2}$
<i>C. sica typicus</i> {	4 × 4	26 $\frac{1}{2}$	19 $\frac{1}{4}$	3 $\frac{3}{4}$
	4 × 4	25 $\frac{1}{2}$	17 $\frac{3}{8}$	5

It will be seen that the two varieties produce antlers of about the same size.

The little herd received from the Duke of Bedford comprised three bucks and three does. They were

shipped in five crates from London in the s.s. *Kaikoura*, Captain Reginald C. Clifford, in July, 1904. Feed in the form of clover, hay, carrots, etc., was provided for seventy days. On the voyage two fawns were born when the ship was nearing Wellington, but one only survived. The herd was released on the sheep-run of Mr. W. N. Smith at Taharua, Northern Kaimanawa Ranges, Taupo, North Island. In 1906 two other fawns were born. One of the does from Woburn was very small and apparently she did not breed. Later reports show that these deer acclimatized well and were steadily increasing. If they are afforded a fair measure of protection these pretty and dainty deer should provide good sport and a choice variation of food for lucky stalkers. Some of them will, doubtless, work over from the Kaimanawa ranges to the Tongariro National Park and chum up with their next-door relations on both sides of the world—the Axis deer—and perhaps inter-breed.

Lydekker classes the sika from Northern China as *Cervus mantchuricus* and states that they may be regarded merely as a larger variety of the *Cervus sika*, also that sika thrive in the parks of England and Ireland and that they will inter-breed with red deer.

Of Japanese deer Millais says :

“ Their venison is delicious and they increase more rapidly and are hardier than any foreign deer in existence,” and adds, “ the Japanese buck will mate with the red deer hind.”

The native habitat of the sika deer is Japan, Northern China, Manchuria, and the Liu Kiu Islands. They stand transportation well and readily acclimatize. It is recorded that about thirty-five years ago some

of the *typicus* variety were introduced into Ross-shire, Scotland, and thrived splendidly.

In 1885 the Otago Acclimatization Society received from the late John Bathgate, a resident of Dunedin, three *Cervus sika*. They were released on the Otekaike Estate near Oamaru. In 1890 it was announced in the local papers that they were increasing, but I can find no further record of them.

The following anecdote appeared in *Country Life* of the 13th September, 1919:

“Many stories are current as to the dangers which sooner or later are apt to materialize in connection with tame or half-tame stags. Many of these stories are true and tragic, but a tale related to me to-day on the way home from stalking has the merit of a bloodless ending. To its accuracy there are many witnesses. The villain of the piece was a Japanese stag which arrived at a certain station in Inverness-shire in a crate with others of his kind. From the station he was carted six or seven miles and released from his box. Dissatisfied with his new quarters, he escaped in a few days and made his way directly back to the station, where he made himself king (luckily uncrowned, for his horns had been sawn off) of the stationmaster's garden. No sooner did the wife appear with a platter of poultry food than the stag, in local parlance, ‘took always the meat off her.’ He would brook no denial and proved such a nuisance that a message was sent requesting his early removal. He was accordingly herded away by a collie dog some miles in the direction opposite to his original destination; the collie, with a single eye to his proper vocation, returning with half a dozen of somebody else's sheep. Next morning the stag was back again in his garden, whither a second message brought down a cart, two keepers,

and a lasso, with which instrument he was overpowered after being baited with a dish of his favourite hen food. In the titanic struggle which ensued his hoofs were used to such effect that one of the keepers concerned had all his clothes—bar collar—torn to shreds and had to conceal his nakedness all the way home with a cart rug. Finally, overpowered and legs bound securely, he was placed beneath the seat of the cart, whence he emphasized his discomfort by biting the same keeper through boot and ankle. After a fortnight's confinement he was liberated and settled down in his new home on a career which was one prolonged nuisance till the day of his death.

“We often hear of red deer unable to feed through loss of teeth. Well, included in this consignment of Japanese deer was a doe whose box was labelled emphatically ‘The Old Doe.’ She proved, on examination, to possess only a stump in lieu of teeth. This was fifteen years ago, and she died last April in a snowstorm, when artificial feeding was impossible, as did most of her compatriots and not a few natives.”

An approximation of the age of deer is obtainable from an examination of their teeth. Young deer have white teeth well embedded in pink-looking gums. As they pass middle age the gums commence to shrink, the teeth show more length and become yellowish.

The majority of the deer species have on each side of their mouths :

Incisors $\frac{0}{3}$, canines $\frac{0}{1}$ or $\frac{1}{1}$, pre-molars $\frac{3}{3}$, molars $\frac{3}{3}$.

Deer “tusks” are, as a rule, rounded on their biting edges and therefore useless as weapons. Nature does not usually provide horned, or antlered animals, with canine teeth of a size and quality suitable for offensive purposes. It is therefore noteworthy that the male of the so called “musk-deer” has no antlers,

but, as a set-off for this lethal deficiency, he has long and strong canine teeth which are very useful for either offence or defence. The canines of his female mate are small and practically functionless.

The law of compensation, or concomitant variation, is further displayed in relation to the munt-jac. This little fellow, having very small horns, is provided with additional weapons in the form of strong canine teeth, but these are smaller than those of the "musk-deer."

It is, of course, generally known that the deer species are of great antiquity and that the "Northern Stag" existed in the Pliocene period. This stag is supposed to be the father of the Altai stag of Asia and its migrant brother the wapiti of Northern America. It occupied a zone ranging from the fiftieth to the sixtieth parallel, North. The elk of Scandinavia and its migrant descendant, the moose of America, with the *Rangifer*, or reindeer, also represent the *Cervus* order of mammalia that lived in far remote ages and roamed the zone between the sixtieth and eightieth parallel, North.

The extinct Irish elk, too, with its immense antlers, spreading $7\frac{1}{2}$ feet, had an ancestry that stretched far back to the dawn of the mammalian period. This deer, like the moa of New Zealand, was eaten out of existence by primitive man. In the new hall of the "Age of Man" in the American Museum of Natural History, New York City—of which Institution I have the honour to be a complimentary Life Member—there is a very fine mural painting which was painted in 1920 by Mr. Charles R. Knight under the direction of Professor Henry Fairfield Osborn and Curator Mr. N. C. Nelson, expressing the present-day conception of the race of the Campignian or first

Neolithic stage in Northern Europe. The group represents men of a Northern race, brown or fair-haired, hunters of the stag, living along the southern shores of the Baltic in the earliest stage of the New Stone Age, a stage known as the "Campignian" from the remains of huts and rudely polished stone implements found near Campigny, in France. The scene is on the border of one of the Northern beech forests and represents the return from the hunt. After the ardour of the chase the hunters have thrown off their fur garments. The chieftain in the centre is chiefly clad in furs; in the coming winter season he will be wholly fur-clad. His son, a fair-haired youth with a necklace of wolfs' teeth, grasps a bow and arrow and holds in leash a wolf-dog, ancestor of the modern sheep-dog of Northern France. The hunters, with spears tipped with stone-heads, are resting from the chase. In the foreground is the dead body of a large antlered stag. Two vessels of pottery indicate the introduction of the new ceramicade accompanied by crude ornamentation. This race, courageous, warlike, hardy, are of a lower intelligence and artistic order than the Cro-Magnons, who were chiefly concerned, in a rigorous Northern climate, with the struggle for existence, in which the qualities of endurance, tribal loyalty, and the rudiments of family life were being cultivated. Rude houses took the place of covers and shelters. These men were tall, with high, narrow skulls, and related to the existing Nordic race. Skulls and skeletons representative of this hardy type are abundantly found in Scandinavia.

The notion of Professor Osborn that these hunters were of the Northern fair-haired race has recently been supported by Dr. Marcellin Boule in his *Les Hommes*

Fossils, also the veteran archæologist of Sweden, Dr. Gustaf Oscar August in Montelius. It still, however, lacks positive evidence.

In the Cavern Tuc d'Audoubert, on the estate of Comte de Begouen, near Saint Girons in France, there were discovered in 1914 large red clay models of a bull and a cow bison. In another part of the same cavern were found a number of etchings of various animals made on the rough limestone walls, including a reindeer and a sorcerer in the form of a quadruped bearing on the head antlers of a deer. These etchings were all copied and reproduced by Abbé Henri Breuil, the eminent historian of prehistoric art in France. Professor Osborn, who has visited this cavern and inspected the clay models and rock etchings, expresses the opinion that they are the handiwork of Palæolithic man and were probably executed some twenty-five thousand years ago.

France is noted for caves or caverns which contain drawings of the animals of Europe that existed at the time of the Cave-dwellers in the early Stone Age.

A year or two ago, Mr. A. Leslie Armstrong, F.S.A. (Scot.), unearthed in Norfolk, England, three superimposed levels on which the working of flint had been carried on in past ages. Each layer was separated by thick deposits of blown sand and remains of vegetation. Mr. Armstrong informs me that "the lowest level rested upon glacial boulder clay and that lying side by side were flint implements of distinctive Late Palæolithic Age, also tools made from the tines of deers' antlers"; the most interesting find being two pieces of flint-crust on which are engraved the outlines of deer. Some differences of opinion have been expressed



Photograph by Chas. R. Knight, New York.

NEOLITHIC STAG HUNTERS.

Reproduced by kind permission of Mr. Henry Fairfield Osborn, President of the American Museum of Natural History,
New York.

as to the species of deer which the ancient artists desired to depict. I am informed that Dr. Andrews, of the Natural History Museum, London, assumes them to represent elk, whereas the Abbé Breuil of Paris opines that they are red deer. Mr. Allan Gordon Cameron, author of *The Wild Red Deer of Scotland*, vows they are reindeer. Such cleverness in concealing the true identity of the animals he had drawn would certainly qualify the Palæolithic artist for hanging in our Royal Academy.

The ancients believed that deer lived for many centuries, for it is written that "a stag lives four times longer than a raven, and a raven lives for four hundred years." It is recorded that the huntsmen of King Charles V. of France, 1364–1380, killed a stag which was wearing a gilded metal collar inscribed, "*Hoc me Cæsar donavit*" ("Cæsar gave this to me"). This led to the inference that the collar had been placed on the stag's neck by a Roman Cæsar, perhaps 1400 years previously. It is, however, known that early rulers of the Germanic peoples assumed, amongst other trifles, the same title as the Cæsars. The collar was in all likelihood neither so ancient nor so genuine as its inscription inferred.

In more modern times red deer were believed to live for a century or more, and Scotland has a tale of the long life of a hind. The story goes that a silver collar engraved with the name of the owner and date of fitting was placed on the neck of a young pet hind. In course of time she forsook the vicinity of the home-stead and wandered off to the deer forest, and, although she was often seen by stalkers, she escaped being killed owing to being identified by the collar.

Time passed, and a century later an old hind was

shot in this forest, and when the forester was skinning the carcase,

“he found a silver collar embedded in her neck, beneath the skin, which on examination proved to be identical with the one placed on the neck of the pet deer calf a hundred years before.”

Wild stags bred in the forests of Scotland do not mature so quickly as the better-fed park stags of England, and it may be presumed that they live a few years longer than the latter. Park stags attain an age of about eighteen years. New Zealand deer, as a consequence of abundant food and comparatively mild climate, mature more rapidly than the park deer of England. Their longevity is probably about fifteen years.

THE TAHR (*Hemitragus jemlaicus*)

The Himalayan tahr, Arabian tahr (*H. jayakari*), and the Nilgiri wild goat (*H. hylocrius*), comprise a group which differs in certain characteristics from true goats.

The tahr, or thar, is also known as Kras in Kashmir and Jharal in Nepal.

In 1904 the Duke of Bedford, in response to a suggestion made by Mr. St. George Littledale, selected from his herd at Woburn six Himalayan tahr and presented them to the New Zealand Government. It was the intention of His Grace to send eight animals, but two of them escaped from captivity just before they were to be shipped. The six tahr, three of each sex, were forwarded in the s.s. *Corinthic* which left Plymouth on the 6th April, 1904. They were consigned to the Government Tourist Department and



Photograph by Elliott and Fry, Ltd.]

HIS GRACE THE DUKE OF BEDFORD.

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reached Wellington in May following. On the voyage they were in charge of the ship's butcher. Each male was put into a separate crate $5' \times 5' \times 4' 6''$ and the three females in two crates. The supply of food for the voyage consisted of twenty bundles of clover hay, carrots, compressed cattle food, and crushed maize. One male got loose and was lost overboard, but the others reached New Zealand in good condition and were quarantined on Some's Island, Wellington Harbour, and afterwards liberated in the Mount Cook district. They soon took to the mountains and for several years were seen only very infrequently. In August, 1917, Chief Alpine Guide Peter Graham wrote to me stating that eighteen, or twenty, tahr had been seen the previous year. In 1918 he again wrote informing me that he had seen a herd of fifty on the Alps near the Hermitage. Further advice recently received shows that the herd now exceeds one hundred members.

The Duke of Bedford has informed me that the progenitors of these tahr were imported for him from India by Jamrach in 1897 and those sent to New Zealand were bred at Woburn.

In 1909 the Duke of Bedford again came forward with another present to New Zealand of six male and two female tahr, one male and three female axis deer, two male and one female llama and three buff and three grey rheas. These were shipped by s.s. *Wakanui* in April, 1909, and were released in the same neighbourhood as those dispatched in 1904.

One of the kids adopted the kitchen of the Hermitage as its foster-mother and, the menu being to its liking, refused transfer elsewhere. In 1909 the Government Tourist Department obtained three tahr by purchase and released them in the Hot Lakes

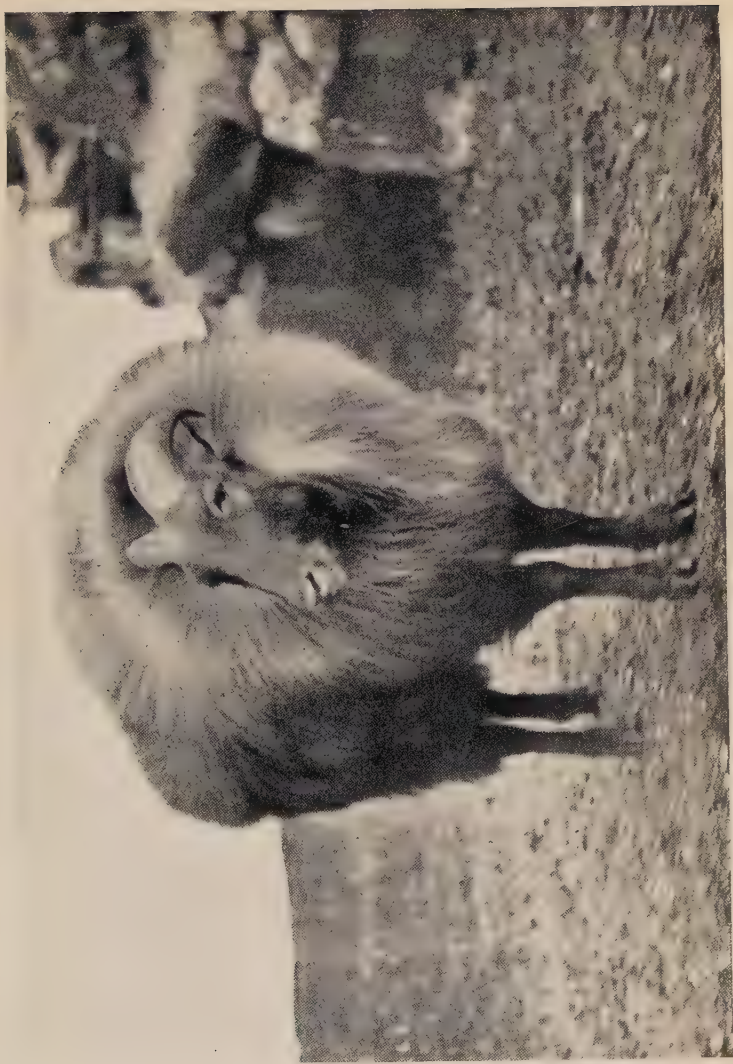
District. They comprised one each adult male and female and one young female.

Tahr have no beard, their horns are black and vary in length from 12 to 15 inches, curving sharply backwards. The height of a male is about 3 feet 3 inches at the shoulder and a well-grown one weighs about 200 lb. The does are smaller than the bucks. The colour of the hair is dark russet-brown, approaching brownish-black, and the old males produce a hoary ruff.

The Himalayan tahr is a very high climber and is respected as a game animal on that account. He gives the hunter a hard task to approach near him in his rugged mountain home. On the Himalayas he ascends as high as 14,000 feet. In summer the old males keep away from the females and then resort to steep rocky cliffs where they are very difficult to approach.

In New Zealand males and females associate closely in April and May. The period of gestation is eight months, and, as a rule, one kid only is born in December or January. In India mating occurs in September and October and the kids are dropped in May and June. The female tahr differs from the true goat in having four teats.

The tahr is not likely to prove troublesome to settlers in New Zealand as they prefer the high tops of mountains far away from any settlement.



Photograph by W. S. Berridge, F.Z.S.]

HIMALAYAN TAHR, MALE.

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CHAPTER XV

THE INTRODUCTION OF CHAMOIS (*Rupicapra tragus*)

I HAVE now to record a most interesting and important experiment in acclimatization which entailed the conveyance of eight live chamois, two bucks and six does, from the mountains of Austria to the mountains of New Zealand, a distance of nearly twelve thousand miles by land and sea. I deal with the matter somewhat fully as it is, as far as New Zealand is concerned, the most momentous instance of the introduction of game animals that has taken place.

In the year 1901 the New Zealand Government created a Department of Tourist and Health Resorts, and I was appointed its General Manager to organize, develop, and administer it. The functions of this Department embraced the control of those famous Mineral Water Spas, Te Aroha, Rotorua, Hanmer, with others; the development of important holiday resorts such as Lakes Taupo, Waikaremoana, Wakatipu, Te Anau, Manapouri, and the overland route to the South-Western Fiords, Mount Cook, and many others. The activities of the Department included an endeavour to induce the world traveller to include New Zealand in his itinerary and to tempt our Australian neighbours to come across the Tasman Sea to enjoy the physical marvels and delightful climate of New Zealand.

The control of the acclimatization work in that great district extending from Rotorua to Taupo, Waikaremoana and East Coast, was also given to the Tourist Department. The head office in Wellington was made attractive by the exhibition of sporting trophies, including my own collections of New Zealand red deer heads and birds and some mounted trout of large size.

In connection with the importation of game animals I had, in 1903, made inquiries of Hagenbeck as to whether he could supply live chamois for New Zealand. His reply was in the negative and he held out no hope of my obtaining them from him or any one else in the future. I then wrote to the late W. A. Baillie-Grohman, of the Tyrol, and his answer was not more encouraging than Hagenbeck's letter.

In 1904 I saw Hagenbeck and discussed with him the question of getting chamois to New Zealand, but he was very pessimistic in regard to my succeeding.

In 1905 the Austrian warship *Panther* visited Wellington and Rear-Admiral Ludwig Ritter von Höhnelt, in command, was brought to the head office of the Tourist Department by Mr. Malcolm Ross, the well-known climber who was afterwards war correspondent with the New Zealand Expeditionary Force in France. Rear-Admiral von Höhnelt was very much interested in my personal collections of New Zealand birds and other specimens of fauna. He inquired whether it would be possible for him to obtain some live specimens of birds for Schönbrunn, Austria. I undertook to submit the request to the Right Hon. Sir Joseph Ward, who was then the Minister of my Department, and he promptly authorized the procurement of such birds as were desired and obtainable; also some tuatara lizards (*Sphenodon punctatus*) and

ferns. I was also of assistance to Ritter von Höhnel in obtaining the privilege usually accorded to visiting naval officers and crews of complimentary transportation on the New Zealand Government Railways for the officers and members of the crew of the *Panther*. Other official courtesies were extended to him through the medium of my Department. On the afternoon prior to the departure of the *Panther* from New Zealand he called at my office to bid me adieu and asked whether there was anything that he could do for New Zealand as an expression of his appreciation of the kindness which had been extended to him, his officers and men by the Tourist Department. I then told him that one of the great desires of my life had been to get some chamois for New Zealand and that I had been in correspondence with that well-known authority on chamois, W. A. Baillie-Grohman, of the Tyrol, in an endeavour to secure some, that he had replied they were most difficult to get and, even if obtained, he doubted whether they could be kept alive for a long sea journey through the great heat of the tropics. I also informed him that I had written to Jamrach in London and also to Carl Hagenbeck, of Hamburg, but could get no chamois, and that in talking of the matter with Hagenbeck in 1904 he also expressed doubts as to the possibility of conveying live chamois to New Zealand.

This was the first occasion on which the subject of securing chamois for New Zealand had been mentioned to Ritter von Höhnel. He then said that it would not be impossible to get some chamois if his Emperor could be interested in the matter, and added that he would see what could be done. There the matter rested. My hopes of getting chamois were, I must

confess, not strong, for I had, as I thought, exhausted every reasonable means of securing them and had reluctantly given up the idea as being impracticable. My surprise and pleasure were therefore great when information reached the New Zealand Government through the Austro-Hungarian Embassy in London in September, 1906, stating that :

“ Captain Ritter von Höhncl had obtained from the New Zealand Government through the Tourist Department, Wellington, specimens of fauna for the menagerie at Schönbrunn and had reported the Government’s desire to possess some live chamois. His Imperial Majesty the Emperor of Austria, having been advised of the matter, had signified his Imperial pleasure of complying with the wish of the Government and had issued directions that six chamois does and two bucks should be taken from the Imperial Crown lands at Neuberg and placed at the disposal of the New Zealand Government as soon as they had become accustomed to captivity and could be dispatched to their destination with a fair prospect of success.”

The dispatch further stated that Ritter von Höhncl had expressed his opinion that it would be advisable to forward the chamois by the longer route—London and the Cape of Good Hope—rather than *viâ* Suez, on account of the great heat in the Red Sea. He was right in this conclusion as the sequel showed. Before their departure Carl Hagenbeck wrote expressing his opinion that the chamois, being born in the mountains, would not stand the ocean voyage. I am informed that when the Imperial orders were received to capture the chamois for New Zealand, yards were prepared and a great drive was arranged for in which several hundreds of gamekeepers, hunters, and soldiers were engaged.



Photograph by d. Osterr, Vienna.]

H.I.M. THE LATE FRANZ JOSEF, EMPEROR OF AUSTRIA.

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About three hundred chamois were driven from the mountains of Murtzsteg, Neuberg, Steiermark, and a large number yarded, but over thirty were killed or died of injuries received in this great drive. The heavy death-roll caused very much disquietude and dissatisfaction amongst the Imperial gamekeepers and hunters, and even to-day this drive is referred to as a deplorable proceeding. Of the chamois which were yarded eight were selected and placed in special quarters where their feeding was gradually adapted from their wild condition to one of captivity, keeping in view the class of food which could be supplied to them on the voyage. After a confinement of many months (nine, I believe) in Schönbrunn, the eight chamois, which all survived, were sent from Austria to London viâ Ostend on the 17th January, 1907, in charge of Inspector Olois Kraus, of the Royal Menagerie at Schönbrunn. He was accompanied by an under-keeper. They had an adventurous journey. The train which conveyed them was snowed up in Switzerland for several days and afterwards on the way to Ostend it took fire. Inspector Kraus was taken ill and returned to Schönbrunn and the under-keeper ultimately took the chamois to London. The steamer *Allouette* in which they were carried from Ostend to London was delayed by fog and her stern was smashed in a collision with another steamer in the Thames.

The High Commissioner for New Zealand had endeavoured to make arrangements to have the chamois kept in the Zoological Gardens during their detention in London, but the Imperial Government Authorities would not consent to this course, and although the Board of Agriculture consented to "the landing of the chamois in Great Britain in accordance

with the Foreign Animals (Quarantine) Order of 1896," the High Commissioner was

"required to acquire the use, as a quarantine station, of suitable premises situate in the immediate vicinity of the place at which it is proposed that the animals should be landed."

It was first arranged that the chamois should be sent from Ostend to Dover and railed thence to London, but as the Board of Agriculture would not sanction this, they were conveyed from Ostend to the Royal Albert Docks, London, by steamer as stated above.

Many letters passed between the High Commissioner and the Board of Agriculture in relation to the provision of quarantine in London. The former suggested the use of a barge in the Thames, but the Board of Agriculture "regretted that they could not accept as a satisfactory quarantine station a barge in the river," and again urged the procurement of a site on shore which should be proclaimed a temporary quarantine station by special Order. As a suitable place could not be procured on shore the Board of Agriculture perforce consented to the common-sense procedure of utilizing a barge.

The s.s. *Alouette* reached St. Katharine's Wharf on Thursday night the 20th January, 1907, and on the following morning, on behalf of the New Zealand Government, H. C. Cameron, an officer of the High Commissioner's Department, took over charge of the chamois from keeper Nowarek who had accompanied them from Vienna. Mr. Cameron reported the "Chamois in good condition, housed in excellent roomy boxes suitable for the voyage, ample food for seventy days," and added that "Certificates of health

were received from the Austrian Veterinary Department and the Bavarian Veterinary Inspector." Two of the does were reported to be in kid, and it was expected they would drop them towards the end of voyage. This did not occur, but kids were born shortly after the chamois were liberated on Mount Wakefield, New Zealand. The following is a copy of the official Veterinary Certificate issued in Austria :

"IT IS HEREBY CERTIFIED by virtue of the order of the I.R. Minister of Agriculture, dated 24th December, 1906, No. 41,467/2567, that the eight chamois sent off by rail from the Railway Station, Ebensee district, Gmunden, Upper Austria, coming from the Hunting Grounds of His Majesty the Emperor of Austria, were found at the official Veterinary Examination to be free from Epizootic disease and are intended for transport to London via Passau-Ostend and for trans-shipment to New Zealand.

"Ebensee, 13th January, 1907.

"(L.S.) (Signed) JOHANN SCHRAMM,
"I.R. District Veterinary Surgeon."

On the 23rd January, 1907, the eight chamois were transferred from the barge to the s.s. *Turakina*, Captain Forbes, and next day they commenced their long journey to New Zealand, being consigned to the Government Tourist Department, Wellington. For the voyage they were in charge of A. E. L. Bertling, who had for nine years been employed as a keeper in the Gardens of the Zoological Society in London.

Food for the chamois on the voyage comprised two tons of hay from Scotland, ash leaves, fir branches, carrots, wurzels, bran, biscuits, barley, oats, locust-beans, and rock-salt. Mistletoe was also provided, but as it quickly became mouldy the chamois were served

with only a small portion. For insurance purposes the chamois were valued at £800 and covered against "all risks" for £600. From Teneriffe Bertling reported the chamois all well on the 30th January, 1907, six days after leaving London, "the sea was calm and the steamer as steady as a rock." Three of the chamois had, however, been off their food but were then beginning to nibble; human passengers also are often like this at sea. During the voyage Bertling arranged the crates in the form of a pen on the fore deck, and the open space so formed was covered with a large net, thereby permitting the chamois to have occasional walking exercise without risk of their going overboard; an awning was also put over them in the tropics as a shelter against the strong heat of the sun. Apart from temporarily going off their food and freely shedding their hair when in the Equatorial Latitudes they went through the trying ordeal without mishap.

The *Turakina* reached Wellington, New Zealand, viâ Cape Town and Hobart, on the 15th March, 1907, the chamois being all alive and in splendid condition. I had the pleasure of receiving them on behalf of the Government and making the necessary arrangements for their conveyance to Lyttelton by steamer, thence by train to Fairlie and the Mount Cook Hermitage by wagon. In Wellington I had somewhat of a shock, as the late Hon. Robert McNab, then Minister for Agriculture, decided to have the chamois placed in quarantine for the regulation period of two months. Representation and argument were at first in vain, but after I had several times interviewed him in the matter he agreed that the quarantine should be effected at Mount Cook and that a special enclosure should be made there to contain them. However, with the

presentation of "clean certificates" from Austria, Bavaria, London, and from his own veterinary surgeons in Wellington, he was ultimately persuaded to consent to their immediate release, especially as it was pointed out to him the great risk of loss by their further confinement and the fact that they were to be liberated in a locality isolated from any other animals. No mishap occurred on the journey from Wellington to Mount Cook, and when their feet first touched New Zealand soil they went off "with their tails up." It was truly a triumphant completion of a remarkable experiment successfully to transport eight members of one of the most wild and shy classes of animals from their mountain fastnesses in Austria to the virgin mountains of New Zealand, a distance of about twelve thousand miles, in trains, steamers, and road vehicles through the cold snowstorms of the Alps and the blazing, torrid heat of the tropics. In less than two months they experienced the climatic changes of the four seasons, and not one animal became ill or was injured or killed. Great credit is due to those concerned, all the way from Schönbrunn to Mount Cook, but especially to Bertling for his care of the animals on their six weeks' voyage by sea.

I have the proud satisfaction of having prompted the gift of these chamois and also of seeing the final stage of their transportation brought to a successful conclusion. The chamois, too, has "done its bit," as in February, 1908, the chief Government Alpine Guide of Mount Cook, Peter Graham, reported having seen some of the chamois on Mount Wakefield with kids at foot. In 1910 further increase was reported. In 1911 the Emperor of Austria expressed his "particular interest" on this information being conveyed to him. In May,

1913, Graham advised that he had seen nine chamois together, including one which was half-grown.

In 1917 I again wrote to him, and under date 20th August, 1917, he answered, informing me that the chamois were doing well and he had recently had a near view of twenty in one herd. He stated that he had watched them for some considerable time, and, further, had seen their tracks on the Westland side of the Copland Pass, and, appropriately enough, they had visited the Franz Joseph Glacier thirty miles away.

It is officially reported that in the summer of 1919 as many as seventy chamois were seen together in the Mount Cook district. In 1921 I received a letter giving the approximate number of chamois seen by the guides as one hundred. This gratifying information affords definite evidence that they are increasing satisfactorily and have been successfully acclimatized in their new home.

On the 3rd April, 1920, Messrs. S. A. Shrimpton and R. Wigley were deer stalking on Mount Glenmary, about ten or twelve miles north of Lake Ohau, when they saw a chamois standing on the skyline about two thousand feet above them. During the two hours that it was under their observation it remained motionless, as still as a statue. Doubtless it was an old doe on sentry duty.

It is interesting to know that some of the chamois from Mount Wakefield have crossed the Hooker River and reached that very fine game country south of the Hermitage which embraces Mounts Sealey, 8651, Hopkins 8800, Percy Smith, 8249, Ward 8593, and Glenmary, 8524 feet.

A small herd of chamois had previously been seen at the head of the Hopkins River by some guides from

the Hermitage. They will probably spread in course of time along the main Alpine Range to the mountains which overshadow Lakes Hawea, Wanaka, and Wakatipu, and even down into the Fiordland National Park.

It is to be sincerely hoped that the Government will rigidly protect the chamois until such time as his establishment is thoroughly assured. He is a shy, reserved little animal who keeps high on rough mountains and far aloof from man or man's habitation. He will prove to be a valuable asset to New Zealand if given a fair chance. The Government, and only the Government, can give him that chance. I would like to suggest that, when the chamois are numerous enough to permit of their being hunted, the Government should absolutely prohibit driving and confine sportsmen to pure and simple stalking and the killing of *bucks*.

In writing to me in relation to the presentation of the original chamois, Rear-Admiral Ritter von Höhnelt stated :

"The interest of the Emperor of Austria was aroused by the 'kind and friendly way in which the *Panther* was received by the authorities and citizens of New Zealand and the courtesies of the Government and its Tourist Department.'"

Also that

"he was himself happy and proud at being associated with the experiment of sending chamois to their new home across the world and that it was a remarkable historical event."

In February, 1911, Dr. Chalmers Mitchell, of the Zoological Gardens, London, wrote to the High Commissioner for New Zealand in London suggesting the

introduction of fresh chamois blood to New Zealand. This suggestion was in turn made to the Government ; but on the 27th April following, the Minister then in charge of the Agricultural and Tourist Departments rejected the proposal "in view," as he expressed it, "of the expense and risk involved in bringing the animals through the tropics." The chamois were to be presented, and the New Zealand Shipping Companies always carry game animals free of freight.

The idea of having new blood, which was so strongly held by Ritter von Höhnelt and Dr. Chalmers Mitchell, was not, however, allowed to lapse by want of effort, as in the same year the former pointed out to the Imperial authorities in Vienna the advisableness of supplementing the original herd with new blood to make the first endeavour certain of success. In this representation he was, so he says, warmly supported by Inspector Olois Kraus and that General Director von Hawerda also extended his cordial assistance, and the matter being quietly but insistently pursued ultimately resulted in the Emperor giving orders on the 20th May, 1913, that two buck and two doe chamois should be caught in the Royal grounds of Neuberg and sent to New Zealand to supplement the herd already there. In fulfilment of this decision a drive was effected and four chamois were captured. They were, however, all injured and one died. Inspector Kraus, concluding that they were not in a fit condition to make the voyage to New Zealand, and fearing that they would all die on the journey, very considerably arranged to send three healthy tame chamois, which had been under his care at Schönbrunn for two years, in place of the three wild ones. These three chamois were to have been sent the longer route viâ London and Cape Town,



Photograph reproduced by courtesy of Professor H. Lenhard, Vienna.]

REAR-ADMIRAL LUDWIG RITTER VON HÖHNEL, OF VIENNA.

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and I, being then in London, was deputed by the High Commissioner to make the necessary arrangements for their transport to New Zealand. I at once entered into correspondence with Schönbrunn and with shipping companies likely to be concerned, when an opportunity suddenly occurred of sending the chamois from Austria to Australia, viâ Suez and Bombay. The Austrian authorities took advantage of this, and on the 21st December, 1913, dispatched the three chamois to Fiume on the Adriatic Sea—since made notable by the activities of Gabriel d'Annunzio. Here they were shipped on the s.s. *Turul*, which left on the following day. They reached Suez "thoroughly healthy and taking their food well." After leaving Suez the excessive heat experienced in the Red Sea, the run to Bombay and through the Tropical Zone seems to have been too much for them, as three days after leaving Bombay a doe died and the remaining doe and buck were so exhausted and in such wretched condition on reaching Melbourne, Australia, that it was feared they could not stand the further short voyage of $3\frac{1}{2}$ days across the Tasman Sea to New Zealand. The pair were, in consequence, landed in Melbourne and placed in the Zoological Gardens, Royal Park, where they were retained for the usual quarantine period of two months. These being the first live chamois to reach Australia they created very considerable interest, and large crowds of people went to see them.

The result of this unfortunate experiment shows that Ritter von Höhnelt arrived at a sound conclusion when he advocated sending the first consignment by the longer, but cooler, route of London and Cape Town instead of the shorter, but hotter, route viâ the Red Sea. During their detention in the Melbourne Zoo

the two chamois thoroughly recovered and were dispatched to New Zealand in May, 1914, and arrived in good condition. They were liberated near the Suspension Bridge, on the eastern side of the Hooker River, on the 28th idem. Peter Graham informed me that the doe disappeared from the locality, and it is surmised that she joined the main herd which was in the vicinity. The buck, however, remained near the place of his liberation and frequented the Tourist tracks. Later on he, as so many semi-feral animals do, made himself a nuisance by following visitors and butting persons who either took his fancy or incurred his dislike. Having charged a young girl and ripped one of her arms he disappeared, but two weeks later he turned up at the Ball hut on the western side of the Tasman Glacier, refused to be driven off by the guides, and showed his resentment of their efforts by charging whoever ventured outside the hut. The party on this occasion contained two women, and the guide in charge, fearing that the buck would again injure some one, took the law into his own hands and killed him: an inglorious end to an historic chamois. Here we get the same result as has so frequently occurred throughout the world in the case of half-tamed deer; an absence of fear of and an interference with mankind generally, but particularly a desire to molest womankind. The fauna given by the New Zealand Government to Austria on request of Rear-Admiral von Höhnelt comprised:

4 Keas, or mountain parrots, notorious as killers of sheep.

5 Wekas, or Maori hens.

4 Kiwis, apteryx.

6 Paradise duck.

6 Grey duck.

6 Tuatara lizards.

These were shipped in the s.s. *Ionic* which left New

Zealand on the 8th November, 1906. During the voyage to London deaths through pneumonia occurred to two keas, two wekas, one kiwi, one paradise duck, and five grey duck. Those which remained alive were forwarded from London for Vienna in the steamer *Swift* in charge of Keeper Nowarek and reached Schönbrunn without further loss. The menagerie authorities there were exercised in their minds because "the Giant Lizards would not feed." One of the peculiarities of this reptile is that when in captivity he is content with a few ounces of live worms per annum and keeps fat on his abstinence; but Inspector Olois Kraus did not know this. In addition to this small present of live stock the Government sent to Austria a case of New Zealand minerals and six cases of native ferns.

The chamois, or gemse, is the only representative of the goat-like antelope which inhabits Europe. The buck is regarded by sportsmen throughout Austria as an aristocrat amongst game animals even as is the red deer stag in the Highlands of Scotland, the bull moose in Canada and United States of America, the tiger in India, and the buffalo and lion in Africa. The home of the chamois is on the high mountains of Bavaria, the Tyrol, Switzerland, Styria, Corinthia, Spain, Dalmatia, Greece, and the Caucasus. The chamois is a forest-loving animal and feeds principally on mountain herbage and lichen. It is a high climber, and when disturbed during the shooting season it ascends to the mountain tops where it playfully disports itself on the rocks and glaciers. Its security of foothold is remarkable, and it is a tremendous jumper and can climb along rocky faces where man cannot follow. Its period of life is stated to be from twenty to twenty-five years.

It is gregarious and herds together in parties of eighteen to twenty-five members. The chamois begins feeding at dawn, lies down during the middle of the day—usually on a vantage point which commands a good view of the surrounding country, an old doe generally keeping watch—and recommences feeding towards evening. In Europe the chamois begin to mate in the middle of November, the period of gestation being seven months ; kids are dropped in June : the New Zealand chamois should therefore mate in May and the does kid in December.

In the mating season the bucks fight each other with great zest. At this period glands which are ordinarily dormant swell behind each horn and they fill with a soft thick lymph which gives off a strong but not unpleasant odour.

During the summer months the old bucks keep aloof from the does. It is usual for a doe to produce one kid annually, but twins are not infrequent. The kids are strong at birth and within a day or so they can follow their mother almost anywhere. Their horns begin to show at three months. Chamois and goats will inter-breed, but the hybrid progeny is barren.

The horns of matured bucks vary in length from 7 to 10 inches ; they are black in colour and set in the head above and between the eyes. They are round, ringed, and rough at the base, rising perpendicularly from the skull for a few inches, then becoming smooth and shiny they slightly diverge and incline forward to a small extent, flattening somewhat towards their tops and curving backwards and downwards, forming a pronounced hook. The does, known as “ geis,” also have horns but of a lighter formation and set straighter than those of the bucks. The ears of the chamois are

sharply pointed and the neck is short, the legs stout and strong, tail short, and the hoofs broad and hard, and they have accessory hoofs. The eyes are large and prominent. A full-grown buck stands about six hands at the withers and a fat one weighs from 60 to 65 lb., although individual specimens have been killed which weighed as much as 74 and 82 lb. The flesh of the buck is of strong flavour and odour and practically uneatable. The summer coat is short and of a reddish-yellow colour; it darkens to chestnut-brown in autumn, and getting longer and darker in winter appears to be almost black. The hair on its face, muzzle, lower jaws, belly, and below the tail is of a yellowish colour; along its back there is a ridge of black hair longer than any others, and this is known as its "beard"; in winter it is 7 or 8 inches in length, and those hairs which are silver-tipped are the most highly prized. The Jaegers pull the longer hairs from the "gemse bart" and bunch them for the adornment of their hats. These hairs attain their greatest length and lustre during the mating season. In pre-war days a superior "gemse bart" would fetch as much as £10 in Austria.

The chamois is timid, keen of sight, has an acute sense of smell, and is very quick of hearing. When alarmed the master buck, known as "the Capital buck," or "Fuhргеiss," warns the herd of danger by whistling or giving a short grunt. In Austria the chamois-hunter is known as a Jaeger (jagen=to hunt) and dresses in a picturesque costume, wearing a felt hat with a brim, into the band of which he inserts, at the back of the crown, the tail feathers of a blackcock, a "gemse bart," and a few bright flowers, sometimes adding the edelweiss which he has gathered high up on the face of some dangerous cliff. His body garment comprises a

short, full jacket and is known as a joppe ; his breeches are short, not reaching to the knees, and are made of leather, the lower part being ornamented with leaves or other emblems in coloured threads. His stockings are long, of thick worsted, and adorned with fanciful patterns in coloured wools, their tops are turned down, leaving his knees bare. His boots are strong and thickly studded with nails, and he usually carries an alpenstock with its point sheathed with iron. On his back the Jaeger carries a rucksack ; in this he conveys food and other necessities on the outward journey, and, if lucky, it contains a chamois or two on the homeward trip. The chamois is gralloched and placed in the rucksack with its head and legs projecting, the former with horns and ears pointing downwards and the legs “ in the air.”

The Jaeger is usually a good shot, and he has also to be a quick one if he is to be successful in shooting chamois. For a sportsman to “ miss the shot ” when he has been brought within range of a good chamois buck causes considerable chagrin, but for a Jaeger to miss is unspeakable humiliation. This feeling is well exemplified in the following verses which I quote from an old book :

VEXATION

By KOBELL

Father's so cross and grumpy,
 He keeps on scold, scold, scold ;
 Just now he beat poor old Trouncer
 That is so good and old :
 There's nothing right, no nothing ;
 All in the house is wrong,
 That Dobbin's lame since Monday
 Sure that won't vex him long ;
 The aftermath's all in now,
 So he may well be spared.
 What can then be the matter ?
 To ask, if I but dared.

He comes. "Be still, ye children."

The children all keep close,
And still as mice, and wonder
What makes him so morose,
The old man cleaned his rifle,
Then shoved it as it lay ;
Lolled in the chimney-corner
And drove his dog away.

'Tis very late already ;
At last he falls asleep,
When on tip-toe the youngest
Into the room does creep
And whispers to the others—
"I've found it out, good luck ;
'Tis not about old Dobbin,
He has missed a chamois buck."

In all parts of the world there are mythical stories in relation to wild animals, and the imaginative Tyrolean hunter has many fanciful yarns of the chamois. It is related that they can lower themselves down sheer precipices by using their hooked horns to hang on to rocky projections.

Another story is that "in crossing fields of soft snow chamois walk over the backs of each other until a bridge of chamois is formed over which the herd passes ; the bridge is then disassembled by the last chamois jumping on the one in front of it and passing over the others, and so on until all have crossed.

Some hunters drink the raw blood and eat the fat of chamois "so that thereby they may obtain a steady head and freedom from giddiness when they come to steep places." This story reminds me of the old Maori warriors, some of whom drank the blood of their slain enemies of heroic fame in order that an additional amount of bravery should be their own portion.

The Bezoar stone which is sometimes found in the stomach of a chamois is believed by the peasants to have special curative qualities. It is comprised of an aggregation of fibrous resin and hairs.

The chamois is said to be full brother to the "izzard" of the Pyrenees and the "atchi" of the Caucasus, and by some naturalists is declared to be a full cousin to the Rocky Mountain goat (*Haploceros americanus* or *montanus*).

"Sports" are known in many varieties of wild animals and the chamois proves to be no exception. Albino chamois have occurred, and in the Tyrolean mountains there is a superstition that any one who kills a white chamois will certainly die in the same year by the activities of the goblins, gnomes, pixies, or other spirits of the air beguiling him into dangerous paths whereby he loses his footing, slips into an abyss, and is smashed to pieces on the rocks below.

This solemn warning doubtless proves an effective measure of protection to the rare albino gemse, as did the *tapu* of the Maori in protecting some goats. Among the older school of sportsmen the magazine rifle is not in favour for chamois; the use of the double-barrelled rifle is, however, considered "sporty," but the late Emperor, Franz Josef, when shooting chamois would not use other than a single-barrelled rifle.

Good shots often take chamois when running, but usually they are stalked and shot when standing at distances from 60 to 80 yards.

Emperor Maximilian (1459-1519) was an ardent chamois hunter and is reputed to have been unusually adept in the use of the javelin and the cross-bow; it is recorded that he killed a chamois at 200 yards with the latter weapon at his first effort.

The late Baillie-Grohman records that before the War there were annually shot on the European Alps some eleven thousand chamois, fifteen thousand red deer, and one hundred thousand roe deer.

Chamois hunting entails high climbing in precipitous and very dangerous places, and the hunter requires to be cool of head, strong of limb, and sure of foot. It is stated that in Europe more lives have been lost in the pursuit of chamois than has been the case with any other animal; the casualty list having been increased to a considerable extent by the deaths of poachers who were shot by keepers and of the latter who were killed by the former. Definite and persistent war, without any armistice, was for centuries waged on the high mountain-tops between these two classes for possession of this little black beast. When the Great War began and the young men were withdrawn from the mountains of Europe to shoot *genus homo* instead of *genus gemse*, the poachers became more necessitous and bold and a lesser war was waged between them and the game-keepers. In Bavaria the Bavarian Game Protection Association announced that over seventy of the latter class had been shot by poachers within the period of a few weeks.

Very few books have been published in English in relation to chamois hunting.

Chamois Hunting in the Mountains of Bavaria, by Charles Boner, published 1853, is interesting as giving an account of his personal experiences, but it is difficult to obtain nowadays. I believe that the most informative modern book on the subject of chamois is *Sport in the Alps*, by the late W. A. Baillie-Grohman, who wrote with intimate personal knowledge of his subject and an ardent appreciation of the sport of chamois hunting. He states that limestone localities, while improving the size of their horns, diminishes the quality of their coats, and that chamois do not usually live amongst ice-clad and snow-covered peaks from

choice but prefer lower lands where there is vegetation and take to the higher tops when much disturbed by hunters. At certain other times they are prompted by their own inclination to wander over glaciers and high tops.

The family of chamois which is scattered throughout Europe show slight variations in widely-separated regions ; these, however, are by some naturalists attributed to local conditions and not sufficiently pronounced to warrant their being regarded as subdivisions.

The introduction into and acclimatization of chamois in new countries has not been pursued, excepting in a very small way.

In 1572 and 1591 chamois, which were secured on the European Alps, were transferred to Hesse. Scrope chronicles an instance of an attempt to introduce chamois into Scotland when the Earl of Fife obtained four from Europe for Mar Forest, Inverness-shire, but King William IV., hearing of the venture, expressed a desire to have them for Windsor Park, and they were accordingly diverted there but "died from having eaten some poisonous herb." They probably contracted gastro-enteritis on eating green food after a dry diet.

The success of the New Zealand venture stands without parallel, when conditions and distance are considered, and this should prove conclusively to those interested that wild animals, which experts believed could not be transported oversea, can be safely conveyed between the extreme ends of the world provided proper care and forethought are exercised. The result will no doubt encourage those who work so assiduously in the direction of endeavouring to prevent the extermination of interesting and valuable fauna by

transferring specimens from their original habitat to other countries.

There is at present one specimen only of the chamois in the London Zoological Gardens. The superintendent in reply to my inquiry informs me that it came from the Austrian Tyrol, viâ the Zoological Gardens in Vienna, in 1907. It is therefore not less than seventeen years of age and has been maintained in captivity during that period. This instance seems to upset the theory, which has been so often erroneously advanced, that chamois cannot live for any length of time at sea-level.

As long ago as 1889 an endeavour was made to obtain chamois for New Zealand from Europe, and matters at the New Zealand end were so far arranged that an amount of £150 was voted by Parliament for the purpose.

As is well known the New Zealand Parliament has enjoyed the advantage of having contained statesmen of high quality and outstanding ability, men of large constructive ideas, with good education, refinement, and culture. On the other hand, members have been elected whose opportunities for education were limited by having had to work hard from boyhood in localities far removed from opportunities of education; men who, to their great credit, succeeded in life despite the disabilities occasioned by want of education and social prestige. One such man, who was unusually unsophisticated even for a colonist, represented a constituency in the South Island during several Parliaments, and when the item of £150 for the introduction of chamois was under consideration in Committee, this member, having been primed with information by some parliamentary wags, opposed it in

a most strenuous manner. He strongly objected to the importation of "shammy," declaring that they would cross with the domestic sheep, and as they were great jumpers, and could jump up and down huge precipices, they would transmit these characteristics to their half-breed progeny and run-holders would therefore be unable to bring them off the mountains. He thereupon read the following extract from Mark Twain's *Tramp Abroad*, which had been made ready for him by his aforementioned friends:—

"Within a day or two I made another discovery. This was, that the lauded chamois is not a wild goat; that it is not a horned animal; that it is not shy; that it does not avoid human society; and that there is no peril in hunting it. The chamois is a black or brown creature; you do not have to go after it, it comes after you; it arrives in vast herds and skips and scampers all over your body, thus it is not shy, but extremely sociable; it is not afraid of man, on the contrary it will attack him; its bite is not dangerous, but neither is it pleasant; its activity has not been overstated—if you try to put your finger on it, it will skip a thousand times its own length at one jump, and no eye is sharp enough to see where it lights. It is poetic foolishness to hunt it with a gun; very few people do that; there is not one man in a million who can hit it with a gun. It is much easier to catch it than it is to shoot it, and only the experienced chamois hunter can do either. Another common piece of exaggeration is that about the 'scarcity' of the chamois. It is the reverse of scarce. Drove of 100,000,000 chamois are not unusual. Indeed, they are so numerous as to be a great pest. The romancers always dress up the chamois hunter in a fanciful and picturesque costume, whereas the best way to hunt this game is to do it without any costume

at all. The article of commerce called chamois skin is another fraud; nobody could skin a chamois, it is too small. The creature is a humbug in every way, and everything which has been written about it is sentimental exaggeration. It was no pleasure to me to find the chamois out, for he had been one of my pet illusions; all my life it had been my dream to see him in his native wilds some day, and engage in the adventurous sport of chasing him from cliff to cliff. It is no pleasure to me to expose him now, and destroy the reader's delight in him and respect for him; but still it must be done, for when an honest writer discovers an imposition it is his simple duty to strip it bare and hurl it down from its place of honour, no matter who suffers by it: any other course would render him unworthy of the public confidence."

The vote was passed by a House convulsed with laughter. At that time the real chamois could not be obtained by those who were acting in Vienna for the New Zealand Government. Hochstetter, the noted geologist, after whom the "Hochstetter Ice Fall" on Mount Cook is named, was, I believe, concerned in the proposal.

Before closing this chapter I should like to say that the New Zealand Shipping Company and the Shaw Savill & Albion Company have always carried game animals from the United Kingdom to New Zealand free of freight charges and have placed every facility and convenience at the disposal of those concerned. The captains of their ships, too, have taken a very direct and personal interest in the transport of these animals. The companies and their officers are, therefore, deserving of a full measure of appreciation for the generous manner in which they have assisted in the work of introducing game animals into New Zealand.

CHAPTER XVI

THE INTRODUCTION OF BHARAL AND NOTES ON SEMI-FERAL SHEEP AND GOATS; HARES, RABBITS, AND PHALANGERS

THE bharal, or bhurel (*Pseudois nahura*, or *Ovis nahura*), is known as "the blue sheep of Tibet." The male stands about 36 inches and his horns run from about 24 to 26 inches with a basal girth of about 11 inches. Rowland Ward records horns which measure $31\frac{1}{2}$ inches in length, $13\frac{1}{2}$ inches circumference, and $22\frac{1}{2}$ inches tip to tip.

The horns of a bharal are olive-coloured, almost smooth, and curve outwards and backwards. The pelage of the body is brownish, or rich-looking grey; the under colour and legs are white with black markings. The female is much smaller than the male and not so handsome.

The bharal has no face glands and the male has no beard. It is considered by naturalists that the bharal belongs as much to the goat as to the sheep family. They do not breed with domestic sheep. Like the tahr, bharal are high climbers, and on the Himalayas are more often met above 14,000 feet than below that elevation. They readily acclimatize and thrive and breed in close captivity. Sportsmen state that the male bharal does not have that pronounced and offensive odour which is characteristic of the true male goat.

When in London in 1905 I entered into communication with Jamrach with the view of obtaining bharal and musk deer. He had available for sale one male and two female bharal, and in March, 1906, the Government of New Zealand placed an order with him for these animals, but they had been sold elsewhere. Six other bharal, two male and four female, were then ordered, but not supplied. However, in March, 1907, Jamrach was able to secure one male and three females, but the Government would not accept less than two males and four females, so that season was also missed.

In June, 1908, Jamrach obtained four bharal, a pair four years old and a pair of yearlings. These were consigned to the Government Tourist Department and shipped from the Royal Albert Docks, London, per s.s. *Rimutaka*, Captain Greenstreet, which sailed on the 12th June, 1908, and reached Wellington, New Zealand, on the 30th July following—"All well and healthy."

The food supplied for four bharal and four axis deer for the voyage from London to New Zealand comprised :

5 bags of oats, 24 trusses hay, 6 trusses straw for bedding, and a bag of rock-salt.

The animals all maintained good condition throughout the voyage. Three of the bharal were liberated in the Mount Cook district. I have no information concerning the loss of one nor of the others.

It is to be hoped that the female or females proved fertile, as in that case successful development may be looked for as there are no local conditions antagonistic to their acclimatization. Perhaps one of these days a shepherd will return to his head-

quarters from the mountains and report having seen "some rummy coloured sheep"; the manager will question him and then say to the "boss": "I'm afraid Tom Looney has got the dingbats. He is seeing things on the hills."

To report seeing any unusual animal in New Zealand is to create a suggestive indication of lunacy, and the man who asserts that he has "seen a moa bird" is put into the same category as the sailor who reports having "seen a sea serpent."

DOMESTIC SHEEP GONE WILD

In a few localities examples have occurred of the domestic sheep having got beyond the control of the shepherds' dogs and developed wild characteristics. In these cases, which are, however, not of frequent occurrence, the only course for the run-holder to pursue is to have these stragglers shot, if they can be stalked within shooting distance. They are alert and shy and make off at sight or sound of man.

On one occasion I shot a hermit wether which could not be brought from the ranges by dogs. He had five years' growth of wool on him which had seriously hampered his movements.

The visitor should avoid shooting sheep on the mountains, as even those which are regarded as "wild" are invariably privately owned.

There are no wild dogs in New Zealand. Occasionally some mixed-bred curs from the townships take to sheep killing and usually do their running and destruction at night. There is only one cure for the sheep-killing dog, and that is a bullet well placed.

THE GOAT (*Capra hircus*)

The first goats known to have reached New Zealand were taken there by Captain Cook in 1773, and released in Queen Charlotte Sound, South Island. On a subsequent visit Cook gave some goats to the Maoris in the vicinity of Cape Kidnappers, Hawkes Bay, North Island.

The "wild" goat of to-day is the progeny of domestic goats obtained by the Maori and pioneer settlers from the early voyageurs. Many of them wandered off and sought independence of control beyond the areas of habitation and here they multiplied without let or hindrance. They ultimately became numerous and some of them took to the mountains, ascending heights of four or five thousand feet.

Goat shooting is now obtainable in many localities including Cape Kidnappers, Orongo Orongo, the Tararua Ranges, Picton, West Coast, and in some of the high mountains in the Cold Lakes districts, in fact their distribution is fairly general throughout the Dominion.

In the Orongo Orongo district, near Wellington, Mr. Riddiford maintains a man on his run for the sole purpose of killing goats, and his tally amounted to as many as 1500 killed in one year. "Wild" goats are not protected, but in some localities permission is required to pursue them on private lands. The males develop long horns, and, although not much valued as trophies, securing them entails high climbing, and the sportsman who gets a dozen good heads knows that his heart and legs are in good order.

Many years ago I had a good deal of goat shooting in the vicinity of Lake Wakatipu. Goats were very

numerous and herds comprising seventy to eighty individuals were frequently seen. After a high climb one would get within 60 or 70 yards of a herd and take cover; a sharp whistle would usually bring an inquisitive old billy into view. A well-placed bullet would cause him to spring forward and to lose his balance, or tumble in a heap. In either case he would fall hundreds of feet down the cliffs. Other billies would step forward to ascertain what was happening, and, with luck, one would topple over a few more. Those shot were seldom, or never, seen again, being, as Mrs. Johnnie Jack of the Gorge Inn termed it, smashed into "jam meat."

Wild goats, like the American prong-horn, are exceedingly inquisitive, and a piece of rag tied to a bush or to a stick stuck upright in the ground will attract them to present a good target.

When hard pressed the wild domestic goat will take a great leap to avoid capture. I once saw a young female, of a rich brown colour, that had become separated from the herd, run to the edge of a steep and high precipice to find that her only chance of escape was to jump or double back and pass two men who were chasing her. When she realized her predicament she hesitated for a second or two and then sprang off the precipice into space, landing upright a good hundred feet below and breaking one of her fore legs.

Writing of goats reminds me that away back in the seventies a Dutchman drove a herd of three or four hundred goats from the Cromwell district to the mountains near Lake Wakatipu, a distance of about thirty miles. He then took to hawking "wild goat's meat" in the adjacent township, and obtained

an extensive clientele. His customers thought that the goat's flesh was good ; in fact quite equal to mutton. Time went on and so did sales ; the goat herd, however, did not seem to diminish. On the contrary it increased. " Dutchy " might have become rich, as his mine of wealth was apparently inexhaustible, but a little carelessness proved his undoing. One of his customers was caterer for the Police Camp, and she, good soul, bought " goat's meat " to feed the policemen. One of them getting a piece of wool between his teeth became curious to know what kind of goat it was that grew wool. Investigation proved that the innocent-looking Dutchman had been systematically rounding up a number of merino sheep, belonging to different run-holders, and yarding them along with his goats. The goats were regularly liberated and lived to see another day, whereas the sheep did not, and that is why " Dutchy " worked for the Government for three years with a brand on him.

On 24th January, 1878, John R. Parry wrote from Constantinople to the Agent-General in London asking whether there would be :

" any obstacle in the way of his introducing the far-famed Angora goat into New Zealand and whether there would be any probability of his being able to privately sell them on arrival."

The price asked was £50 per pair.

In reply he was informed that there was no prohibition against the importation of Angora goats into the colony. Subsequently the Colonial Secretary wrote to the Agent-General saying that the Government was of opinion that the matter of introducing them was one for private enterprise.

In the early seventies Mr. Falconer Larkworthy, in an endeavour to introduce Angora goats into New Zealand, sent a pair of them from London for Carnarvon, but unfortunately they died on the voyage.

The Angora goat ultimately reached New Zealand and thrived well, and some nineteen years ago the Hon. Sir James Carroll, then Native Minister, had a herd of goats comprising an Angora billy and some common nannies sent to the "wild Urewera country" north of Lake Waikaremoana. Owing to the absence of vehicle roads into the remote fastnesses of these forest-clad mountains, transport was difficult, and the goats had to be conveyed part of the way on horseback. Old Whenuanui was the principal chieftain, and he and all his tribe turned out in their gala robes to do honour to the advent of "Te Ankora." The occasion was one of great ceremony and feasting. Speeches were made and songs were sung and the warriors danced their wild war hakas, while the young maidens performed pretty evolutions with the Poi. To prevent the destruction of these goats the chief proclaimed them as *tapu* (sacred). Thereafter no Maori might injure or destroy any of them without incurring fearful, mysterious penalties—even of death—consequent on violation of the law of *tapu*. Thus by superstitious fears were the Urewera goats more effectively protected than any other animals in New Zealand.

On the shores of Lake Wakatipu there is a picturesque-situated township where fifty years ago the day school was presided over by a big burly North-of-Ireland man. He had bought three wild nannie-goats which were originally secured on high mountains and kept them in a paddock. Whenever some of the



HEADS OF SEMI-FERAL GOATS, NEW ZEALAND.

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older boys desired a holiday they over-night surreptitiously released the master's goats, which would quickly return to their former range behind the town-ship. The next morning the master would call for volunteers to go out and fetch back the "escaped" goats. Volunteers were plentiful; some three or four boys would be selected and off they would go. They would return late in the afternoon driving a herd of thirty to forty goats, including those of the master. These would be yarded, and if there were any milkers amongst them they would be sold to residents for 25s. or 30s. each and the billies would be released to help make another holiday. One evening, after a mustering of this kind had occurred, a number of the boys had the old billy-goats roped and then rode them for amusement. The odour from a wild billy is unusually strong, and a goodly portion of it is easily acquired on contact. The clothes of those boys who had been riding had therefore a very definite and objectionable smell. From riding the billy-goats the boys went direct to Bible-class in the parsonage, and although the goat is a biblical animal his odour is evidently not particularly acceptable in the drawing-room of a High Church clergyman, and as he was rather sensitive and somewhat fussy in regard to smells, it was not long before the Bible-class was hurriedly adjourned until "next time."

THE HARE (*Lepus europæus*)

Mr. Edward Wakefield of the Charterhouse, London, and formerly resident in New Zealand, informs me that the first hares to reach New Zealand were imported in the ship *Eagle*, in 1851, and that they were carried in one of the cabins. The ship

came to anchor in Lyttelton Harbour, a few cable lengths from land. To afford the hares some fresh air a steward opened one of the port holes, and on the next visit of inspection to them it was found that they had all disappeared. It was therefore concluded that they had jumped overboard and were drowned. Great disappointment was expressed by the settlers and others concerned at this untimely mishap, but the slogan of those days was "try again." Some months later, however, settlers on the Peninsula were very much surprised to see hares hopping about in the vicinity of their homes, and it was not long before they realized that "Mr. *Lepus europæus*" can swim as well as run.

The action of these hares clearly demonstrated their common sense and the attractiveness of New Zealand, as, when they got a view of its beautiful shores, their desire to become "settlers" and impatience of delay overcame their natural timidity and antipathy to the sea and they popped out through the ventilator, jumped overboard and swam ashore. The cabin port hole had frequently been open on the voyage and yet the hares made no attempt to leave their cabin, but when they smelt the land, its allurements proved to be irresistible to them. It is recorded that a consignment of red deer calves sent from Scotland to New Zealand in 1870 were very dull on the voyage until they were within seventy or eighty miles of land, when they became quite frisky. As they could not see the land they must have smelt the odour of the forest.

I find it recorded that in 1876 the late John Ewen, of Dunedin, who assisted with the importation of red deer from Invermark to Otago, took from Victoria three hares, one jack and two does, for the Otago

Acclimatization Society. These were safely conveyed across the Tasman Sea and turned out near Lake Waihola. The conditions were congenial, and as there existed no natural enemies, other than the harrier and sparrow hawks which probably took a small toll of the leverets, the hare family increased very rapidly.

In 1868 or 1869 some hares were imported from Australia to Auckland, and from time to time in subsequent years odd hares, singly and in pairs, were obtained from visiting vessels, others were imported and released in various parts of New Zealand. Wherever introduced they have acclimatized.

With the possession of hares, the colonists were not long in introducing the greyhound, and I remember that in 1878 the late "Tom" Brydone, General Manager of the New Zealand and Australian Land Company, had some very fine hounds with which he coursed the wild hares at Morton Mains, Edendale, Clydesdale, and elsewhere.

Coursing Clubs were established in the North and South Islands and the sport of coursing was maintained with considerable vitality for many years.

Apart from coursing, hares are obtainable by starting them from amongst the grasses and ferns with spaniel, retriever, or even a fox terrier, and killing them with a fowling-piece. Another method is to walk very quietly amongst the brushwood and grasses when, here and there, "puss" will sit up to see what is coming; she then presents a good target for a shot from a rook rifle. I have seen many good bags made in this sporting way.

Hares are regarded by many men as being strictly plains animals, but they are fond of "camping" on foothills, and I have seen them as high on the mountains

as 6000 feet. In some districts where they are protected they become unafraid of man, and many times I have seen hares crouching in their form not more than six feet away from me.

In New Zealand the hare is not "caviare to the general." The average colonial does not like it on his dining-table, either jugged, baked, or stewed. In 1888 I was coursing on the Opaki plains; the hounds killed over thirty hares in one day, but of these only four were taken away for eating, the remainder were left to rot or be eaten by hawks.

In the South Island an up-country friend sent me a large hare. On commencing to skin it, a blush of green was disclosed, so over the backyard fence it went. That evening I met a friend, a scion of an old English family. He said:

"I saw a splendid hare for you in the train to-day."

"Yes," I answered, "he was a big fellow, but, as he was getting 'high,' I threw him away."

"What!" he almost shrieked. "Where?"

I told him, and said:

"I expect the dogs have taken him."

He ejaculated, "O Cicero! Socrates! O Mores!" and off he fled.

A few days later I saw him riding on horseback, and he called out: "That was the finest hare I ever ate."

I had been having a crack at the hares with a rook rifle, and as the evening of a perfect day was merging into a calm, bright moonlight night, I walked down from the hills to "Old Jack's" house, which was snugly ensconced in a sheltered nook near the sea beach. Jack was a typical shell-back and a collector of "Sea-food," otherwise a fisherman. He

was pleased to accept some hares and the gift prompted an invitation to “Come inside.” I had often been out fishing with “Old Jack” (he was never referred to by any other name), but I had not before been to his home. The house was in violent contrast to the old man ; it was spotlessly clean and there were many evidences of refinement and adornment. A woman appeared from an adjoining room and by way of introduction “Old Jack,” cocking a thumb towards her, said, “This is my missus.” She smiled, bowed, and said, “How do you do ? We are going to have some tea. Will you join us ?” After having refreshment, “Old Jack” asked would I like a song. I said I should, thinking that he was going to break forth into a sailor’s “chanty.” His “missus,” however, went to a piano, selected a song and sang it in a good soprano voice to her own accompaniment. Song followed song, grave and gay, opera selection and ballad ; she had a wide repertoire. Between the songs she played little interludes. The woman was tall ; hair plentiful and as black as a raven’s wing. Her dress was neat and she wore a lace collar. She had been handsome ; her teeth were white and even and her black eyes bore the piercing light of the enthusiast and the mad. She looked as if she could be a perfect devil when she took the bit in her teeth. “Old Jack” sat hunched up on a chair with a short clay pipe in his almost toothless mouth ; his long, dirty-looking, grey hair was all disordered, he wore no collar, and taken altogether he presented a picture of extreme indifference to personal appearances. A violent contrast in personalities.

When I returned to my hotel, I interviewed the landlord, who knew everybody in the district and their

business. He knew her history, of course. "She was a lady, English, well-born, had married a doctor, cleared out with a friend—was deserted, had other friends, each worse than the previous one. Turned up here as missus to a navvy who worked on the railway construction. When he left he sold her to 'Old Jack' for a bottle of rum. Yes, Jack is good to her and she is good to him. She has two marked vices; drink is one of them."

"Old Jack" was just a hunk of driftwood; he had literally floated around the world, and when his timbers began to decay he took to fishing in a delightful little bay in far-off New Zealand, and there he remained, well cared for by his missus until the Pilot came aboard and called out, "Let go the anchor."

RABBITS

The rabbit (*Lepus cuniculus*) is not usually regarded as game in New Zealand. There are many of them; rather too many in some districts. There is a great fortune for the man who can devise a means to eradicate them. Rabbits are legal pests and landowners are summoned and fined if they do not persistently pursue their destruction, and yet I can remember the time when one was liable to a fine of £1 for each rabbit that he did kill. Thousands of men are now engaged shooting, trapping, and poisoning them. They are not in general favour for dietary purposes, and to offer a meal of rabbit to the average New Zealander is to wound his susceptibilities.

No one seems to be anxious to claim the distinction of having introduced these furry rodents into New Zealand. When I was at the Exhibition held in St. Louis in 1904-5, an elderly man told me that

he had been a sailor on the *Warrior Queen* which conveyed the *first* rabbits and sparrows to New Zealand in 1870. He was wrong in both respects, rabbits had secured a strong hold in Southland in the forties, and both hedge and house sparrows were well established in the sixties.

At one time the occupiers of large areas of land, which in many cases were quite unsuitable for small farms, were referred to in Parliament by a distinguished politician with socialistic proclivities as "social pests," and when rabbits over-ran some of their holdings and "burst them up," as the process of bankruptcy was termed, this socialistic member evinced much gleeful satisfaction, overlooking the worse pest to the common weal in the form of the multitudinous rabbit.

One of the wealthy squatters of the South Island, with many thousands of acres of land, endeavoured to hand out a Roland for an Oliver to the aforesaid politician, whose baptismal name is William, by naming one of his racehorses "Undesirable Bill" and another "Social Pest." The rabbit, however, consistently works on the same side of social economy as the socialist in an endeavour to abolish the "large land-owner."

In the earlier days of the rabbit and Otago settlement, a run-holder conceived an idea that he might exterminate his rabbits with the aid of cats. Accordingly he placed an order for a hundred cats with a well-known dealer in Dunedin. The latter let it be known that he required cats at 5s. each, and very quickly small boys brought him a full supply. These were promptly sent up-country and speedily released. Just about this time a hundred homes missed a hundred cats; police aid was invoked and the "cause of all

the trouble" was very much interviewed by many irate ladies who made trenchant remarks. No legal action was taken, however, as "the evidence" was running about on a rabbit-infested sheep-run, earning their living in natural conditions for perhaps the first time in their lives.

As early as 1876, with the view of the wholesale destruction of rabbits, the aid of Science was utilized in the form of gas which was pumped into their burrows. This method was not particularly successful owing to the somewhat crude manner in which the experiments were carried out. Phosphorus-poisoning was then tried with considerable success. Then the Government permitted the introduction and liberation of other pests in the form of ferrets, stoats, weasels, and, later, little owls. It was a case of trying to cure a curse by a curse and naught but a curse remains. The stoats and weasels played havoc with the native birds. Following the vermin and owls came the method of laying apple jelly containing hydrocyanic acid "one-lick-and-you-are-dead" sort of mixture. This was highly effective.

In addition to poisons, mechanical contrivances of various kinds were tried, but the palm for a subtle device, based on the exercise of natural desires, is, I think, deserved by a run-holder of the Wairarapa who submitted to the Government a lethal weapon in the form of a sharp-pointed steel spike. Similar spikes were to be made in large numbers and secured with straps to the lower part of big, strong buck rabbits. These were then to be turned adrift in rabbit-infested areas to consort with those frivolous-minded does which frolicked and gambolled on the greensward after daylight's departure. Their laxity of morality was

to be punished by a death wound dealt to them by the exotic weapon affixed to the bucks.

I remember an old Rabbiter who, like many "hard doers" of former days, was fond of his nip and, after working for months like a horse, would wander into an up-country village and "knock down" his cheque like an ass. On one occasion this man turned up at a two-pub township where the only other business premises were a blacksmith's shop and a grocer's store. He was followed by his pack of over seventy dogs. They comprised greyhounds and fox terriers of sorts, retrievers and collies, samples of pointers, setters, and spaniels. Big, medium, and little dogs. Black, white and grey, yellow and brown dogs: most of them mongrels, with as many sources of breeding as the Nile has tributaries. Wherever the Rabbiter went the dogs went; as he passed from pub to pub there followed a string of dogs. The villagers were sick and tired of him and wanted to get rid of him and his following and their adjuncts, but he would not go away, neither would they. For several days he and his dogs dominated the village life; the folk could talk of nothing else but Billie G. and his dogs. When his money was spent and no more drink was obtainable, he sobered up a bit, and one fine morning the mountains called him; he thereupon quietly meandered away along the home trail followed slowly and solemnly by a long line of dejected-looking dogs.

Some of the hard-drinking "local characters" of the early pioneer days were sons of good families in the Old World who had been packed off to "the Colonies" to reform. Unfortunately reformation seldom ensued; most of them pursued their irregular course along the down-grade until, as prematurely

aged men, with shattered constitutions, they slipped over the edge of *Te Reinga* to the realms of permanent peace.

I knew a young man in an up-country township who was the only son of a very wealthy and politically important man in the United Kingdom. He was little more than a youth, had taken honours in his 'Varsity, then followed a course of London with its temptations for gilded and socially interesting youngsters. He developed customs that were not approved by his austere father, and in due course he was bundled off to New Zealand. This young man went the pace until his big cheque had vanished in riotous living. He then adopted the usual procedure of those in such a fix, by pawning all that he owned that was pawnable and then borrowed money from any acquaintance who would lend it. The end of such a course is inevitable and always the same. When he was "dead broke" he became the "loafer," and was avoided by his quondam "friends"; the police then stepped in and told him that he must go to work or he would be arrested under the "Vagrant Act" as having no visible means of livelihood. He went to work and got a job in a country store at "thirty bob a week and tucker." He sold pepper, mustard, vinegar, sugar, salt, tea, etc.—he the heir to a million of money; and he made good. He gave up drinking, saved his earnings and paid his own passage back to England, where his father took him to his bosom and then killed the fatted calf.

A lonesome man whom I knew lived in a two-roomed sod hut in the mountains, remote from townships. He was an old 'Varsity blue with a reserved manner and a sympathetic disposition. He spoke several

languages and could freely quote Horace in Latin. When the alcoholic fever seized him he tramped with feverish haste through forest and fern until he reached the nearest township and straightway made for its only public-house. In a day or two the drink had so fired his brain that he became an unmitigated nuisance to every one whom he met. From being usually quiet he became exceedingly garrulous and talked incessantly; language flowed from his mouth without cessation. When the desire for drink was sated he suddenly sobered, shame supervened, and he disappeared, making off home in the dark hours. He did not herald his departure; he merely wasn't there.

Rabbits are usually obtainable in stalking country; therefore a Morris tube for your 0·303 or a 0·22 rifle would be useful. To most stalkers from abroad rabbits form a very inviting change of diet. It should, however, be ascertained whether rabbit poison has been laid in the locality; otherwise bunny might obtain a sweet revenge. A friend of mine shot fifteen rabbits one morning, and as he was returning home with them a farmer told him that poison had recently been laid on the land where he got them. In telling me of the incident he said the rabbits were so tame that they would not run away. As a matter of fact they were really stupified with poison. He naïvely added, "I was going to send you a couple of them."

It is somewhat peculiar that in a land where poison for rabbit killing was so easily obtainable, as in New Zealand, that cases of homicide and suicide by toxin was not more common. I can remember but one instance of poisoning, and that occurred fifty years ago when a doctor poisoned a woman presumably

by intent in this instance, as he was hanged. A run-holder once wrote asking me to obtain for him a supply of strychnine as a sheep-killing dog had appeared on his station and was "running" his sheep. I went to an elderly chemist, a Scotsman, and made my request. He said: "I am busy; go into the next room and you will find a jar full, *help yourself*." This man was podgy, bald, and near-sighted. He slept on his business premises and had his meals in a near-by hotel where by virtue of long association he occupied the head of the principal table. Here he chatted with all and sundry in a very sociable manner, telling anecdotes and long stories. When the chemist was at his meals his shop boy took charge of the drugs, and whenever a customer came in the boy would run over to the hotel and inform his master. These interruptions often occurred in the middle of a story, thereby spoiling its effect, so one day the chemist, who was irritably disposed, admonished his boy, and glaring at him said: "Now, Peter, remember this, whenever you come here and find me engaged in telling a story or in conversation you must wait until I have finished it before you interrupt me. Never mind who it is, or what it is, and if you don't you will be sacked! sacked!!" One day the old gentleman was telling an oft-told, lengthy tale to some strangers and had just commenced it when Peter arrived breathless, and remembering his warning he stood to attention beside his master, but did not interrupt him. The story-teller pursued his meandering way through a lot of extraneous detail, and after several minutes he came to the climax, then he smiled on his audience for approval, and benignly turning a beaming face on his shop boy said: "Now, Peter! What is it?" And

the boy answered, "Please, sir, your shop is on fire." It was too, and thoroughly destroyed.

Pertinent to rabbits :—A noted lecturer from north of the Tweed was talking his way through overseas lands, and on giving his first lecture in Australia he mentioned that wherever he had gone on his tour he had found Scotsmen in considerable numbers, and that they were always to the forefront in pioneering and administration after the establishment of towns and cities, and "Nae doot," said he, "you have very many of them in Australia." At this juncture he was interrupted by a voice from among the audience reassuringly advising him : "Don't worry about that; rabbits are our worst pest."

Do they manage these things better in France ?

An Englishman, well known for his skill with the fowling-piece, and who was a welcome guest on many grouse moors and at pheasant drives in his own country, intended visiting Paris and wrote to a wealthy Frenchman, who resided in provincial France, asking him to come to Paris and meet him there in regard to a business matter. His correspondent answered affirmatively, at the same time inviting the Englishman to come to his château for a few days' shooting. The Englishman thereupon had his shooting kit packed and took it with him. After completing his business in Paris, he proceeded to the château in pleasurable anticipation of some good sport with the birds. He found that several other guns had been invited to meet him. The party set off for the fields, the Englishman, being treated as the special guest of honour, was closely attended by his host. During the approach to the scene of action he learned that it was intended to shoot *rabbits*. Looking steadily at his host he

accepted the intimation without the flicker of an eyelid. Presently a rabbit jumped up and skurried off followed by a couple of spaniels. The Englishman prepared to shoot, but his host, raising a hand, exclaimed quickly: "No! No! Do not shoot! That is Marie. She is a ver' good mother. Ve do not shoot her." The Englishman looked at his host, but said nothing. By and by another rabbit sprang up, a yellow and white one this time. The Englishman again essayed to shoot, but again his host restrained him and said: "Do not shoot! That is little Ninnette. She is a ver' pretty colour. Ve do not shoot her." The Englishman looked calmly at his host, but made no comment. A little later the dogs started another rabbit which bounded off with ears erect and tail well up. The Englishman, anticipating another objection, made no attempt to shoot, whereupon his host, looking at him with sad eyes, shrugged his shoulders and in a disappointed and reproachful tone said: "Vell! Vy did you not shoot, monsieur? That was Alphonse. Ve always shoot at Alphonse."

PHALANGERS (*Trichosurus vulpecula*)

These little animals, popularly known as opossums, are increasing with great rapidity in many parts of New Zealand.

The first record I have of the introduction of opossums into New Zealand was the liberation in 1858 of several members of the species in the forest near Riverton, Southland, by the late C. Basstian, of Invercargill.

At a later period others, which have multiplied very considerably, were released in the Catlins River district.

In 1893 the Wellington Acclimatization Society purchased from the Southland Acclimatization Society nineteen opossums, known as the Tasmanian "black" or "blue" variety, and released them in their Game Park at Paraparaumu, North Island.

In 1894 the Wellington Society purchased two further consignments from the Southland Society at 22s. 4d. per pair, being the amount of catching charges and incidental expenses only, and ten of these were liberated at Wainuiomata and ten on Kapiti Island, Cook Straits.

In 1905 the Government Tourist Department secured and liberated in the Rotorua district twenty opossums and similar numbers, "black" and silver-grey varieties, at Kumara and Mount Tuhua districts, West Coast, South Island, respectively. All of these have thriven well and extended over areas as wide as ten miles or more from their original homes.

Opossums are also numerous on Stewart Island, and there is a large colony of the "black" variety on the eastern side of Lake Kanieri, West Coast.

Killing is permitted in some districts under licence and specified conditions.

In hunting the opossum sport can be obtained on bright moonlight nights when a dog will cause opossums to take to the trees, and in open forest they can be discerned on the boughs and brought down by a bullet from a small-bore rifle.

CHAPTER XVII

NOTES ON CATTLE, PIGS, LLAMAS, RACCOONS, AND WHALES

WILD CATTLE

THE herds of "wild" cattle which exist in some districts sprang from introduced domestic bulls and cows which escaped into the forest from the Maoris and white settlers before the introduction of fencing. Here they had immense areas of land on which to roam and abundance of food, and they multiplied freely, becoming very wild, displaying great alarm at sight of man. As settlement advanced the wild cattle were either killed or went far back into the solitude of mountain fastnesses whence it is impossible to remove them alive.

From the *Illustrated London News* of the 1st February, 1863, I quote the following paragraph referring to New Zealand :

"We have sometimes very exciting scenes on the runs with the cattle, many of which naturally become wild from the long absence of control. We are obliged to catch them on horseback, with the assistance of powerful dogs, and our attempts to secure particular animals are at times almost as adventurous and quite as exhilarating as those of the guachos on the pampas of South America."

Hunting "clean skins" is heavy work and entails a great deal of running up hill and down dale, climbing steep faces and scrambling through scrub. When wild cattle are alarmed they travel fast until they become winded, when they plant themselves in heavily-bushed gullies. To get a shot one has to stalk them just as warily as one stalks deer. The country is too rough to follow them on horseback.

In 1878 John Clark, of Blueskin, and I were after wild cattle on the Silver Peak ranges, where they were numerous, when we were surprised to see two men running towards us, one of them carrying a rifle; they looked to be utterly done up as if finishing a Marathon race.

When they got near us, one of them shouted, "Shoot the brute! shoot the brute!" and they continued running. We, however, could see nothing to shoot, so Clark said they must be lunatics. In a moment or so a big red bull came running up to us looking as if he were annoyed. I promptly complied with the request made by one of the sprinting gentlemen and we found that the bull had been previously hit several times and was bleeding a good deal. When the two hunted men were satisfied that he was dead they came up to his carcase and made rude remarks to it. They were two Irishmen, working at Mullocky Gully down the Taieri way. They explained that they had shot at the bull "a heap of times" and wounding him he had chased them, and as they had no more ammunition they had to run.

On the same ranges Clark and I came across a small herd of cattle, comprising a blue-and-white coloured young cow, apparently experiencing her first intimate association with the males, and seven

big bulls of various colours, with long Hereford-looking horns, which accompanied her. I dropped the cow with a head shot and the bulls scampered off at the report. We remained in concealment and presently the bulls came trotting back independently of each other and kept rushing about near to where the dead cow lay. Each time we fired those untouched ran off, but were evidently irresistibly impelled to return to the cow. We killed the lot. The last bull, a big red fellow, gave us a fright by rushing through the small patch of bushes wherein we were concealed. Clark and I separated quickly and without formality. The bull followed me as I ran fast through the scrub, and he got close enough to make me feel that my end was near; just then I tripped over a stump or stone and fell, the bull jumping over me. After over-running me for a hundred yards or so he returned and was shot.

From 5 a.m. until 4.30 p.m. one day I was one of a party of three that killed seventeen wild bulls and thirty-one pigs. We rode into the heart of the cattle country, tied up our horses, and started the cattle from bush-covered gullies with several good cattle dogs; sometimes there was a choice of shot as between a bull and a big boar as both emerged from the same thick cover.

The large percentage of bulls which we discovered as against the number of cows is accounted for by the fact that residents of the Taieri plains and the Waitati who wanted fresh meat without encroaching on their own stock would make expeditions to the ranges and take with them several packhorses. They did not waste time on hunting and shooting bulls as their meat is not particularly palatable; they therefore

confined their efforts to killing young cows and packed the meat to their homes where the bulk of it was salted.

Wild cows are more clever in concealing themselves in the bush than are bulls. On many occasions I have seen a mixed herd start off in a wild, excited rush and a few minutes later a string of bulls would be seen making off with neither a cow nor calf with them. On putting dogs into a scrub gully where bulls and cows were seen to go in the dogs would come out heeling some of the bulls but very rarely were any cows with them. The latter were, I think, more ready to use their horns on the dogs than were the bulls, and the dogs knew it.

In the eighties I, with others, had some wild cattle shooting in the North Island where we were able to get near the cattle on horseback. One day our party headed a herd towards a great expanse of fairly level country ; we galloped up to them, and each picking out a victim, kept pace with him until a good chance offered for a shot and kill.

Wild cattle will readily turn on man when they are closely pressed and blown, or wounded, and sometimes give chase to a man who is on horseback or even in a vehicle. I have seen several pronounced instances of this. Once I took part, with two experienced stockmen, in endeavouring to prevent an excited bullock, just off the ranges, from attacking a pair-horse buggy containing a magistrate and his wife. The galloping of the stock horses and the skilful use of stockwhips had no avail in diverting the bullock from his purpose. For some inexplicable reason he was determined to attack the buggy or the horses and made five or six attempts to do so.

Fortunately the horses drew the buggy off the road on to a piece of land which was as level as a bowling green. Here they had ample room for movement. They were so frightened of the charging bullock, the cracking of whips and shouting that they swerved and turned in every direction and made strong efforts to bolt. The magistrate pluckily stuck to the reins and guided the horses sufficiently well to avoid a capsize. In the end the bullock forced one of the galloping stock horses against the off hind wheel of the buggy, and this result apparently satisfied him, as he then discontinued his attacking efforts and made off along the road.

In the Hokonui district, Southland, in the seventies there was quite a considerable herd of unbranded cattle, so wild that they would scamper off into heavy bush on getting sight of man. The New Zealand and Australian Land Company had some of their cattle in the same district. One year, when the stockmen from the Company's Estate at Edendale were mustering stock for the annual branding and marking, they picked up a large, long-horned white bull which tried to break away, but after a good deal of galloping and a taste of the stockwhip he became blown and settled down with the driven herd. In due course he accompanied these into a large paddock at Edendale which was enclosed by a high strong fence of live gorse.

The following morning the head stockman, Jimmy Marr, a clever cattleman and good rider, went into this paddock on his favourite mount, a flea-bitten grey mare, for the purpose of surveying the herd preparatory to effecting some cutting-out operations. Several junior stockmen waited at the gateway.

When Marr got well into the paddock the wild white bull showed signs of resentment and walked very deliberately towards the stockman, with his head well up. Marr was not afraid of any cattle beast, and assumed that the bull was putting up a "bluff"; he was quickly undeceived, however, when the bull charged home. Marr's mare wheeled round and sprang aside and Marr cantered her in a semicircle, meanwhile unstrapping his seventeen-foot stockwhip, and then made another approach towards the bull. The latter accepted the challenge, and as he trotted towards the mare Marr made his whip talk and bite; nothing daunted, the bull—giving his head a shake or two—came to close quarters again, but again missed horning the mare. After several such encounters Marr found that the bull was madly in earnest and he took refuge in flight at full gallop out of the paddock, the gate being promptly closed in the face of the bull. Later in the day a rifle bullet settled the bull; his hind legs were roped together and his carcass was dragged by a couple of horses to the pigstyes.

Jimmy Marr was a believer in the transmigration of souls. He rather favoured the idea of becoming a wild bull in his reincarnation, but he prayed most earnestly that he should not become a working bullock. The yoked ox is despised by cattlemen.

The New Zealand stockmen of the old school were fearless riders and could sit a bucking horse as well as an Australian, which is the highest compliment that one can pay them. They were quiet, modest men, most of them with no tendency to display flash side. They were certainly not so picturesque as the cowboys of the United States, whom I have seen at their legitimate work in Texas, Dakota, Montana, Wyoming,

Idaho, and other states. The New Zealander, like the Australian, uses a stockwhip—short-handled and long-lashed. He knows nothing of the lariat in the use of which the American boys are so expert. The New Zealander mounts a young, unbroken horse on an ordinary riding saddle, and in this respect he is, I think, at a disadvantage with the American cowboy, whose saddle is the better for buck-jumping and other rough work. The Red Indian is, however, the daddy of all riders on a bare-backed horse, and I do not except even the Patagonians in this statement. I have seen Sioux, Blackfeet, Apache, and other Indians in bare-back competitions with Patagonians, and for grace and skill I believe they have no superiors.

Away back in the forties the Island of Kapiti, in Cook Straits, contained a herd of wild cattle which had developed from a young bull and two heifers that were put there by a trader from Sydney, N.S.W., doubtless in lieu of consideration received from the Maoris. At that time Te Rauparaha held sway over this island after killing off the original possessors, and he turned an honest penny by granting permission to visitors to shoot some of the cattle.

Although there are still some wild and unowned cattle in different parts of New Zealand which may be shot without restraint, the visitor should be very certain of the position before shooting any cattle; otherwise he might find himself in the awkward predicament of the captain of an English ship who shot a valuable bull that he thought was a wild one and which belonged to a farmer with a nasty temper.

A BUSH CONCERT

On the way out-back for some wild cattle hunting the party that I was with stopped over at a village settlement on the night that a concert and dance took place in the school-house, a building with a capacity for seating about fifty persons. A platform about four feet square was made at one end of the room for the performers. The orchestra comprised a cottage piano and a concertina, with occasional assistance from a Jew's harp played with great vigour and independence of the other musicians by a young Maori with big rolling eyes, thick lips, and a mat of long black hair. The concert began with "Silver Threads among the Gold," by the company, members of the audience joining in whenever any one knew some of the words or a bit of the tune. Having got rid of "Silver Threads," the belle of the village took the platform suffused in blushes; this made the young "bloods" sit erect and take notice, and some of them endeavoured to smooth their hair and straighten their neckties. The lady stood against the back wall of the stage with her fingers entwined and, looking down at her feet, warbled something about Love. This was evidently a great success and there was much applause, especially from the young men.

The third venture was a duet by an engaged couple. He tall, thin, and nervous; she plump, jolly-looking, and full of confidence. After the orchestra had played a tiddly-widdly prelude, off they started, but the singers lagged behind the music and one another. Then all stopped and a little conversation took place between them. A vamp or two on the piano to give the time and they had another try; the lady kept

track of the tune and time all right, but the gentleman could not get grip of either and was fast becoming demoralized. Another general stop, and, to show its sympathy, the audience stamped their boots on the floor. A whispering then took place between the singers, the musicians had another preliminary spin, and this time the singers were away well together, but for a few bars only. The lover stopped first, then his sweetheart, followed by the piano, the concertina man going on quite oblivious of the position until he received a hard kick from the pianist. The gentleman: "I can't sing it." The lady: "You can, you know you can; try again." He: "No, it's no use, I can't." She, stepping forward and addressing the audience: "He can sing it, he knows he can, he can sing it well." Curtain.

When the concert was finished the room was arranged for dancing. The youths adjourned outside while the ladies sat in rows along the sides and ends of the room.

A tall cattleman entered whose clothes were more suitable for the stockyards than a dancing-room, and he was wearing spurs. He was evidently an aspirant for the favour of a dance. With a confident air he approached a young woman who was waiting for the dancing to commence and asked her, apparently in reference to her dancing engagements, "Are you full up?" She sweetly answered, "Yes, thank you." To her neighbour he said, "Full up?" and she also replied in the affirmative. His determination to secure a dance was commendable, even if his discretion were questionable, as he went round the room and to each prospective dancing young woman he put the question, "F'lup?"

"F'lup ?" and each one smilingly said "Yes." The little fibbers.

They were old-fashioned dances—the polka, quadrille, circular waltz, and the Varsovienna, Scottish reel and Irish jig; dances that were taken from the Old Land by the grandparents of those assembled.

"WILD PIG"

When white settlement began the semi-feral pig was common in many parts of New Zealand. They are plentiful enough to-day, and hunting them on horseback, or on foot, with spear or rifle is readily obtainable, although in most parts one cannot follow the large boars into their wild rough haunts on horseback. Hunting them to bay with dogs and then either shooting or sticking them is the usual method adopted by New Zealanders.

These animals are not indigenous but are bred from the ordinary domestic pigs which were liberated by early voyageurs or escaped from Maori or white owners in the earlier days of settlement and began business on their own account.

The great navigator, Cook, was strongly desirous that pigs should be successfully introduced into New Zealand, thinking, no doubt, that a variation of flesh food would be of advantage to the Maoris, and doubtless he was largely influenced by humanitarian considerations, as in those days cannibalism was often practised. It is recorded that de Surville gave two young pigs to the Maoris of Doubtless Bay in 1769. This appears to have been the first introduction of animals into New Zealand other than the native dog and the rat which the Maori perhaps brought from "Hawaiki"

about five centuries ago. What ultimately became of de Surville's two pigs is not on record. On the 7th June, 1773, Captain Cook had one boar and two sows liberated in Cannibal Cove, Queen Charlotte Sound. These were from Captain Furneaux' ship, the *Adventure*. On the 2nd November, 1773, five months later, Cook gave some pigs to the Maoris of Cape Kidnappers, south of Napier.

In 1793 Captain Philip Gidley King, who was then Lieutenant-Governor of New South Wales, visited New Zealand. He presented the Maori chieftains "Tooka" and "Woodoo" with two boars and ten young sows. These were released on an island near the North Cape and the Maoris promised that they should be preserved. Later on, as trade developed, pigs were often exchanged by seamen with the Maoris for spears and dressed flax.

There is perhaps no tougher work anywhere than hunting wild boar on the mountains of New Zealand. They resort to the most difficult, deep, rugged, rough gullies which are thickly covered with bush and under-scrub interlaced with the strong lawyer vines which tear the hunter's face, hands, and clothing.

Pig hunting is for the young, agile athlete, for when grey hairs tinge the temples the sport is too strenuous for lungs and legs.

When the old boar is started by dogs he goes off at top speed and they follow, yelping as they run. The hunter, running in his best form, is soon out-distanced, as the first spurt of a boar is fast and furious, but if pressed by dogs he will soon come to bay, when they give continuous tongue until the huntsman arrives. A rifle shot, spear, or knife thrust usually ends the affair.

I have had many encounters with wild boars by running them to bay with dogs and then giving them their quietus with a spear having a ten-foot shaft. The boar nearly always makes his rush when one gets within twenty feet of him, and to avoid injury to one's self it is necessary to be prompt in action and certain of thrust into neck or shoulder. If the man misses, the boar is not likely to do so.

A wild boar at bay will stand up, face his enemy and fight gamely even when he has several severe wounds on his head, neck, or shoulders, but he does object to any one interfering with his hind quarters, and if he is pricked near his tail with a spear, he will, as a rule, sit down to it, and keeping his face to the dogs, whirl around after them as if he were on a pivot. He will very rarely run after he has been so pricked, although the wound may be small and cause no impediment to free action.

Some of the pigs, especially the old boars, known locally as "Captain Cookers," are high, long, thin, with very long heads, favouring the Tamworth type gone to seed, as it were; others are short and fat, distinctly of the Berkshire breed. In some districts the black pig predominates, but generally herds comprise black, white, black spotted, reddish brown, white with red spots, and piebald. There is no relationship between the wild boar of Austria and the New Zealand one, although the latter in the course of many years of forest life have developed some of the characteristics of those in the primeval forests of Europe, especially speed and cunning.

Pork of the young wild pig is sweet and juicy, and always "in season" when one is in the bush and hungry.

Wild pigs destroy many lambs in the lambing season, and therefore run-holders engage men to destroy them. I know of two men who shot over two hundred in one week.

Record of measurements of an old wild boar, a "Captain Cooker," shot in the Wyndham Valley in 1908:

Length, nose to base of tail over back.		7 ft. 3 in.
Girth behind shoulders		5 ft. 2 in.
Height at shoulder		3 ft. 2 in.
Width of fore feet		3½ in.
Thickness of skin on shoulders		2 in.
The tusks when removed made a circle of 16 in.		

I have a pair of tusks of a boar which I shot on the Silver Peak ranges and which form a circle of exactly 20 inches. I have also about three hundred pairs of good tusks which I obtained on the same ranges and in the Fortrose district. There are some sportsmen in New Zealand whose tally approximates a thousand wild pig.

In Maori tribal conflicts which took place after the advent of the pig the possession by a tribe of a herd of swine was considered sufficient cause to provoke a hostile attack by an adventurous enemy; a *casus belli* could always be camouflaged under a demand of reparation for the loss of a grandfather's head, or the rape of a great-aunt by some member of the tribe who owned the pigs. On these occasions, if victorious, the attackers would seize pigs and anything else that came handy. In these conflicts many pigs escaped into the bush and supplemented those which had already dropped their sty habits for those of ferine nature.

Maori girls are fond of young pigs as pets, and many a time I have seen a young village maiden

nursing a good-sized pig as if it were one of her lover's gifts.

"Te Poaka" (the porker) figures largely on the menu in the *tangi* (weeping) feasts of the Maoris, and I have seen the dressed carcase of a fine fat pig literally covered with one-, five-, and ten-pound banknotes, this valuable carcase forming the principal offering to members of a visiting tribe on their departure after the funeral ceremony.

In some Maori districts the important Maori chiefs, or their wives, when setting out to pay a friendly call on relations who reside some fifty or sixty miles away, usually take several large, live fat pigs with them. They go with "full hands," as it were, which is *tika* (correct). The picturesque and homely sight of a long canoe may often be seen on the Waikato, Wanganui, and Mokau rivers laden with Maori women, live pigs, pet dogs, and potatoes.

The Maori man is fond of pig hunting; to him it means keenly relished food as well as sport. In 1906 I was out with Mr. James Cowan searching the forest between Rotorua and Tauranga for a traditional underground Maori refuge of the days of inter-tribal wars. We succeeded in our quest and found what is now known as "the underground pa." On the journey we saw a large black boar rushing out of some scrub, closely pursued by two dogs, and they in turn were followed by two young Maori men. The boar came to bay near where we stood, with his back towards a thick belt of scrub; his bristles were up and his jaws were white with foam. The dogs yelped and yapped at him but they were not game to go in and tackle him. One of the Maori boys, however, ran in, seized the boar by an ear, and, in the twinkling of

an eye, dexterously thrust a knife into his chest and killed him.

When hunting pigs many years ago I came to a very roughly made Maori hut which I had discovered by seeing smoke rising above the trees. An old man came to the doorway; he had white hair and beard, and his body was partly covered with a tattered robe of dressed flax. He was of medium height, thin, and badly nourished, had good shoulders and gave me the impression of having been—in days gone by—strong and active. He wore neither head nor foot covering.

He at first made no response to my greeting but kept his eyes on me. When he concluded that my presence portended no harm he invited me into his *wharè* (house). There was a fire on the floor and such of the smoke from it as cared to go out and lose itself had liberty to do so through open spaces in the roof, most of it, however, seemed to be content to remain inside. My eyes smarted and shed tears, and when I was able to exercise my vision I saw that there was a woman there. She was squatting on her haunches as Maori women do. When I spoke to her she arose and disclosed a small stature and a bent body. Over her left shoulder hung a Maori robe concealing her left arm.

I ascertained that they had been there for very many years and were fugitives from an enemy tribe. They were alone and lived on fish, fern-roots, grubs, and birds. They had neither bedding nor cooking utensils; nothing, in fact, but themselves and their threadbare robes. The conditions were pronouncedly primitive. The man asked his wife to show me her "sick" arm; she removed the robe and displayed

a skeleton forearm and hand which were withered and skinless, the bare bones showing from the elbow-joint to the finger-tips. She had carried this dead limb for years and years. I suggested removing it then and there, but the man and woman definitely refused. She covered it up and drew back just as if I had wanted to take a treasured possession away from her. I was told that in an enemy raid she had been "speared" and her arm had gone *komate* (sick or dead). She and her *tane* (husband) had escaped into the bush and travelled for many long days until they reached the limit of possibility and could go no further, as they came to the sea. They lived there, poor faithful souls, with no more comfort and no more variety in life than is given to wild beasts.

They came together in the full tide of youth. At their marriage there was no pledge given of holding "for better for worse, for richer for poorer, in sickness and in health." They took each other without ceremony and without orange blossom. They loved and cherished each other in sickness and in health—his woman; her man.

* * * * *

"Ginger" was about eighteen years of age; his patronymic was not misapplied, although "Freckles" would have been equally appropriate. He sometimes accompanied Clark and me on pig-hunting adventures. He was well built, active, and as keen as mustard, but had a slight tendency towards egotism in regard to his pluck.

At 5 o'clock one lovely morning we were on the mountain-tops, already eight miles from home. As the bright sun rose in splendour in the deep-blue and cloudless eastern sky the pale full-faced moon was

receding below the western heights. A gentle breeze rippled the grass and wafted to our nostrils the sweet fragrance of forest flowers. Even our horses appeared to be exhilarated by the pure and rarefied air and carried themselves with extra pride. Darkie, a cross-bred Russian collie, long-haired and bob-tailed, detected an odour for which the wild flora was not responsible. He put his nose on the wind and sniffing a few times evidently detected pig. He thereupon gave a little yelp and, pricking his ears, took a definite course right in face of the sun. After going about half a mile Clark dismounted and put our two dogs in leash. Darkie, holding to the line of smell, brought us and his mate to a clump of scrub on a terrace, and there we found the bed of a wild sow containing a litter of eight suckers. The mother was not visibly present, and Ginger caught one of the young ones as it was making off; it squealed its little best, and this brought an old sow on to the scene. She was large, thin, long-snouted, red and dirty white in colour. She appeared to be angry, and ran full-tilt at Ginger, who ran too, still holding the sucker. Then began a really hot and amusing chase, the sow making repeated rushes and just missing Ginger by inches as he ran, twisted, and turned amongst the bushes. A good bump from the sow's nose as she tried to bite him caused Ginger to become alarmed and he shouted out, "Shoot her!" Clark and I were enjoying his discomfiture, and besides this we were not willing to orphanize the litter, so ignored his request. Ginger, realizing that help was not forthcoming, dropped the young one, but its mother was evidently unaware that he had done so, as she made a well-sustained and final run after him. She then disappeared into

the bushes, probably to reassemble her scattered family. Ginger subsided into a very subdued condition.

During this performance Clark had to keep strong hold of the two dogs, had they been released they would have tackled the sow and killed the suckers.

On our way home the dogs caught a half-grown white sow and began worrying her, so we had to dismount from our horses and go into the scrub to make the dogs release her. Each time we brought the dogs away they would watch their opportunity and make off again after the sow. When they seized her she squealed loudly. After several futile attempts to get the dogs to leave her, Ginger, who had recovered from his discomfiture of the early morning, was all activity in chasing the sow. Evidently he found satisfaction in turning the tables. He said that he would like to take her home for a friend in Dunedin. This being agreed to, he got a corn-sack which he had been using for a saddle cloth, and in this the sow was placed. Ginger carried her in his arms, on his horse as soon as the latter could be persuaded to concur in this course. On reaching Waitati, Ginger, after cutting a few breathing holes in the sack, deposited the sow in the railway station as "Left Luggage." The station was in process of being repainted, and for this purpose there was a variety of different-coloured paints in use, including red, brown, green, and cream. The painters had put their pots of paint into the ladies' waiting-room for the night, and into the same room a porter put the sow. During the night she got out of the bag and, capsizing the pots, mixed the paints and then wallowed in them. In trying to remove it from her hairs she rubbed herself along the walls,

decorating them and herself with all the colours of the rainbow. When the stationmaster opened the waiting-room door early next morning, out came something in a hurry, and when he told friends that he had seen a wild animal, of an unknown species, which was coloured red, blue, and green, they smiled and winked at him. During the day several women of the village were badly scared, and, here and there, dogs were seen running home with their tails down and yelping in their fear. The pig got into the heavy bush of the Waitati Valley and no doubt worked her way back to the high country and rejoined her relations.

In the Fortrose district, a little below Wyndham, two of the Blackley brothers, two other friends and I were galloping along a level terrace after a large black boar which was outpacing some good dogs that we had. Each of us was trying his best to get the shot. The boar swerved off the terrace and went helter-skelter down a fairly steep face, thickly covered with high fern. The five of us followed at a good hand gallop. My mare caught her fore feet in an entanglement of fern and turned a complete somersault. I landed on the fern without damage and, still holding my rifle, at once arose, and as the boar was running along a clear sideling I got in a fluky shot and killed him.

A remarkable incident occurred on the hills south of Wyndham when a party was out pig hunting. A large boar was caught napping and forced on to some clear land by horsemen. Here he was headed off each time he tried to make into the bush; at last, becoming aggravated, he bolted downhill and passed under the belly of a horse which was ridden by Robert

Kidd; in so doing he ripped the horse from side to side, virtually galloping it on the spot. To put it out of pain the horse was at once shot.

The wild pig has a very acute sense of smell; more so, I think, than deer, and he readily picks up the taint of man at long distances. An instance when the odour from a newly-killed deer appeared to be stronger than the human taint occurred at sundown one evening in the Longbush locality, Wairarapa. On the way home to Glenside station I killed a stag; John Strang and R. Cooper proceeded to remove his skin, after having taken off his head. While these operations were in progress a large wild boar was seen to emerge from some scrub and make towards the stag's carcase, coming up-wind and travelling along a side-ling at a quick pace. Two of our party were busy on the deer and two others stood near by talking. I waited until the boar got within about one hundred yards of us and I then shot him; he rolled over and over about a dozen times before he came to a stop in a deep creek-bed.

Whether hunger overcame his discretion or the strong odour of blood and hot flesh prevented the boar from detecting our taint, I can express no opinion; our voices should have reached his ears, but there he was, coming directly towards us against the wind, an unusual circumstance, I think.

On one pig-hunting expedition to the Silver Peak ranges, Clark, another companion and I took a very large dog with us, some sort of mongrel hound which had been sent to us on buying approval for £5. The artistic representations of his owner made it appear that this dog was "a regular glutton for seizing wild pigs, and the bigger the pig the better the dog liked

it.” As chance had it, the first pig we started was a very large, strong, black boar with a good pair of tusks. On sighting us he went off at top speed with our two cattle dogs, giving tongue, in hot pursuit. The “five pound dog” displayed no interest whatever in the chase, but followed close on my heels as I made towards the noise caused by the yelping of the two other dogs, which were baying the boar a few hundred yards away. The boar’s den was well chosen on level ground, in a sheltered corner, at the base of a steep and rocky hill. The den itself was under a projecting rock, and in front of it were the skeleton remains of a cattle beast which formed a barricade against a direct frontal attack. The boar had his back to the wall and stood there with his long head lowered, and watching the two cattle dogs with his wicked-looking little eyes. They were trying to bluff him by barking and yelping with their neck hairs ruffled up, but they were most careful in keeping quite a respectful distance from him. We were impotent to attack, owing to our having brought no weapon other than our sticking knives, as we expected the large dog to tackle and hold any pig that we came across, when one of us would have slipped in and knifed him in the orthodox manner. I climbed up the hill face and worked to a point about fifteen feet above the boar, and then endeavoured to persuade him to leave his vantage ground with the aid of well-thrown stones; while I was so engaged the large dog clambered after me, he was obviously pig shy, so on the inspiration of the moment I took him by his neck and flank and saying, “Sool him, boy,” I pushed him forward. The dog, finding that he could not help himself, made a virtue of necessity, and sprang down the hillside on to the

level ground. Catching sight of the boar he threw his head up and rushed towards him. The boar came forward a few feet and he and the dog clashed together, when, with a lightning-like movement, the boar turned the dog on his back, gave him one deadly rip, and returned quickly to his den.

I called out to Clark: "I've done in that fiver."

Visitors to new countries who go a-hunting should be careful to acquire some knowledge of the local game animals before commencing business. Colonials are pronounced practical jokers, and on one occasion an Englishman, when in one of the clubs, spoke loudly of his prowess as a game hunter, boasting of the elephant he had shot in Africa, tiger in India, and wild boar in Austria, and asked to be put on to some pig-shooting in New Zealand. Some young squatters who were present entered into solemn consultation on the matter and undertook to see that his desires in this regard were fulfilled. They prepared a sketch-plan of a route that he was to follow after reaching a certain railway station a few miles from town. Nimrod turned out in hunting attire quite *de rigueur*. He reached the "topping place for pig" to which he had been directed and was surprised to find his game so near at hand. There was ample evidence of the presence of pig in the upturned condition of the soil amid the plentiful growth of high, rough fern. Presently he sighted a half-grown pig and promptly put a bullet into its hind quarters and off the pig went squealing. In running after him the hunter came across a large, long-nosed, spotted sow, in fact he nearly tumbled over her. She stood looking at him, and he, fearing that he was too close for safety, backed away from her for 20 or 30 yards, and then let fly.

Four shots finished the sow, and then he heard dogs barking and a loud and angry voice. A big man, who seemed to be vexed, came up to him and rather impolitely asked him what he thought he was doing. On his making explanation the big man said: "Well, that'll cost you £7 10s. for my best Tamworth sow and forty bob for the young barrow." The hunter had been directed to a well-known pig farm.

It is not generally remembered that at one time New Zealand was under the domination of New South Wales, Australia. On the 15th June, 1839, it was proclaimed by legal process that the boundaries of New South Wales were extended to include any part of New Zealand which was under British Sovereignty. New South Wales was then a penal colony with laws especially framed to meet the needs for dealing with transported convicts. By the extension of its boundaries the convict laws automatically applied to New Zealand, much to the resentment of its settlers.

One of the dangers which the New Zealand colonists incurred by this arrangement was that of penal servitude for killing pigs.

The settlers of those days had no fences on their sections. Some of them cultivated gardens, others kept pigs, some did both. Some pigs were tied up by a hind leg, others ran loose and wandered whither their inclination listed, naturally into gardens. Bad feeling was in consequence engendered, and the garden man and the pig man quarrelled. The matter of adjustment was difficult. The pig man could not catch his half-wild pigs as they were as fleet as hounds; the garden man dare not shoot them, as under the New South Wales law he would be liable to seven years in gaol.

It looks as if the law had unwittingly encouraged pigs to take to a wild life.

THE LLAMA

This useful animal was not, of course, regarded from a game point of view in New Zealand, nor was the *Lama glama* used as a pack-animal as is the custom in some parts of its native habitat. As far as I can ascertain the first llamas introduced into New Zealand were imported by the late Barnard Rhodes in 1865-6 and retained on his property at Wadestown, near Wellington. The males developed—according to one's view-point—the amusing, or objectionable, habit of chasing visitors, and this was considered to be good fun by onlookers; but when a Judge of the Supreme Court, a gentleman of somewhat corpulent figure and lethargic disposition, was made to run fast and crawl through a fence to escape from a big black llama his dignity was ruffled and a fuss was made. To placate him Mr. Rhodes sent the llamas away from Wadestown to his station at Otakapu, Rangitikei, where they thrived and increased for a time but ultimately died out.

Alexander McKenzie, otherwise known in the Wairarapa as "Tear-about-Sandy" on account of his *penchant* for fast driving, has a wide acquaintance with sheep, sheeplands, and sheep breeders, but not with llamas. One fine evening, as the sun was dipping behind the Tararua Mountains, Sandy was riding along a scrub-covered stretch of land at his usual hand gallop, quietly thinking of nothing, when, on making a quick turn in the track, his horse saw something the like of which neither he nor his rider had ever seen before; so he stopped short and Sandy went on and landed on top of a llama, an occurrence which frightened both of them very much indeed.

There are four varieties of the llama; the two wild

ones are known as the vicunia (*Lama vicugna*) and the guanaco (*Lama huanacus*) and two domesticated representatives in the alpaca (*Lama alpaca*) and the true llama (*Lama glama*). In Bolivia and Peru they are bred in captivity for their wool. The llama does not apparently acclimatize well in the Southern Pacific, as a large herd which was introduced into Australia made no headway and gradually succumbed to some adverse local condition.

Llama have a pronounced characteristic ; they spit. In the Bronx Zoo in New York an Irish keeper deliberately removed from the llama pen a printed notice bearing the caution : " Beware of the llama ; he spits." When Mike was asked to explain his reason for doing this, he answered : " Shure, he's quit business ; he couldn't comate with thim Yankees."

THE RACCOON (*Procyon lotor*)

" And thereby hangs a tale." The raccoon is commonly known as " coon."

When I was in Washington Dr. Frank Baker wished to present the New Zealand Government with six raccoons for the Rotorua Gardens. I was " tickled to death " on seeing dozens of them hanging by their tails, fast asleep, on to the branches of a large tree, and thinking that they would interest visitors, and especially little folks, I readily accepted the gift. Shortly after their arrival in Rotorua two of them escaped from their cage. There was a " hue and cry "—not after the raccoons, but after me. The death of every old hen that died of the pip within twenty miles of Rotorua was attributed to the escaped raccoons and incidentally to me. Newspapers published condemnatory articles, and the matter was even brought up in Parliament.

In the country districts of the United States there is a close association between raccoons and negroes ; the sight of one readily suggests the other. The negro dearly loves a 'coon, but it is doubtful whether the affection is reciprocated.

Just outside of Concord, in New Hampshire, where the late Mrs. Eddy, the prominent apostle of Christian Science, resided, I saw a negro boy buoyantly tramping along a road carrying a well-conditioned dead 'coon, a trophy of the hunt, and that boy's face looked as bright as an illuminated address. He was simply oozing joyousness in anticipation of a 'coon supper.

Raccoons are for the most part nocturnal in their habits and sleep the sleep of the satisfied during daylight. They are hunted with dogs at night, treed and shot by torchlight. By inclination they are vegetarians and fond of chestnuts, Indian corn, and fruit, but are not averse to an odd meal of frogs, birds, eggs, and—must I admit it ?—*chicken*.

NOTES ON WHALING

Whales were not, of course, introduced into New Zealand waters where at one time they were plentiful, nor are they usually classed as “ big game,” and yet to hunt these huge mammals and to effect a kill in the old-fashioned whale boat, with harpoon and lance, was sport indeed and full of excitement and risk. In my youth I had the luck to have several experiences in whaling off the southern coast of New Zealand. I was often on board the old whaler *Chance* in the seventies when Paddy Gilroy was skipper and “ Old Whalley,” a half-caste Tasmanian, was mate. My old friend the late Frank Bullen makes mention of the *Chance* and Paddy Gilroy in his excellent story,

The Cruise of the Cachalot. I remember, too, the brig *Carl* which had been in the "black-birding" business. The lining timbers of her hold contained many old-type leaden bullets reminiscent of the awful scenes which had taken place when she was in that wretched trade. At an up-country hotel I saw a South American sailor working as a handyman; he was of Spanish extraction, looked like a picturesque pirate, and had had a very eventful life in the Pacific. He told me that he had worked for Bully Hayes the notorious buccaneer who, he stated, was "a likeable chap." He was also at one time on a schooner, not one belonging to Hayes, which contained a cargo of black boys. She was chased for two days by a British sloop of war and when finally "brought to" with the customary shot across her bows the "cargo" had all disappeared.

Thinking of the Pacific reminds me of my intimate and interesting friend the late Louis Becke, author of *By Reef and Palm* and other South Sea stories. He knew the Pacific and its ways backwards, as the saying is, and his fund of stories seemed inexhaustible.

He had a slight and somewhat attractive hesitancy in his speech. On one occasion he and I were resident in the same hotel down "Pacific Way," and about 6.30 a.m. one fine morning a tap came on my bedroom door and in walked Louis Becke in his pyjamas, holding a bottle of champagne in one hand and two glasses in the other. He said: "I've got a l-little we-weakness. I l-like a gl-ass of champagne before b-breakfast and I w-want you to help me d-drink it."

Louis Becke was a kind-hearted, sympathetic man, full of human nature and generous impulse.

On one occasion I was by invitation in a whale boat

racing in a choppy sea after a "Right Whale." The crew comprised white men, Maoris, and a kanaka harpooner known as "Long Jimmy." Our boat was the first to get alongside the great cetacean and very ticklish work it was too. The kanaka, standing up for'ard, drove his harpoon well home in the first attempt, and the whale immediately submerged, much to my relief. The harpoon line ran out at a great speed from a tub aft, through a crutch for'ard. One of the oarsmen stood by with a sharp tomahawk ready to sever the line should it become fouled. The boat was towed against the wind, gunwales awash. The whale made a very long "sound" on his first sinking and when he rose again we were far from other boats. After some manœuvring the boat was again brought alongside the whale with every one in it wet through. There was difficulty in getting it just right for Jimmy the kanaka to make a good lance thrust, and conversation was heated and intemperate. In consequence of the joggle a capsize appeared imminent, and I looked for the two other boats, but they were far away, too far for my liking, bobbing up and down like a couple of corks. With visions of an upset, I kept very close to a fifteen-foot sweep; presently a lance thrust was made, but it was not a good one, and down the whale went again; then followed scene two very much like the opening one. Several times the whale rose and each time he submerged until I, not being interested in the blubber prospects but wet through and feeling very cold, became tired of the business and wished myself ashore. Presently the kanaka got a good chance, and with a grunt he drove the lance deep into the whale just behind his left flipper. He dived again and Jimmy turned round with a grin on his face indicative of full

knowledge that his job was finished. This time the whale rose quickly, spouting blood, which became mixed with water as he came to the surface ; the crew yelled again and again on seeing this evidence of early death. We were, however, much too close to the whale when he was in his "flurry" to please me.

It took over five hours to tow the monster to the "try pots."

The Pacific variety of the "Right Whale" (*Balaena glacialis*), which is sometimes caught off the coast of New Zealand, runs to about 60 feet in length, and when matured and in good condition it produces about 130 tuns of oil. Its head is very long, much longer in comparison than that of the Sperm Whale. This latter (*Physeter macrocephalus*) attains a length of about 70 to 80 feet and is a great diver ; it is a toothed animal, and in this respect differs from the Right Whale, whose upper jaw contains long pieces of flat whalebone which act as a strainer and hold the small shrimps known to the whalers as "whale food." The Sperm Whale lives mostly on squids, jellyfish, cuttlefish, etc., and makes a longer sounding than the Right Whale. When exhaling the air from its lungs on rising to the surface it forces vapour forward about twenty times in fairly quick succession ; whereas the Right Whale "blows" seven or eight times only and then vertically. The different manner in which the vapour is thrown enables whalers to distinguish from a distance the Sperm and Right Whales from each other.

When lying on the water the Right Whale shows only a part of its head and back and looks like a big black shiny bladder. When wounded it appears to throw its great flukes into the air and for the moment it seems to be standing on its head and, taking its dive at

a very obtuse angle, makes off against the wind. In this last respect it acts like the deer family.

Whaling to-day is carried on with machinery, and in consequence lacks a good deal of the danger and poetry of old-time methods. It is less sporting too.

The history of Johnny Jones will never be written, more's the pity, for his was a life of adventure bold, and in those far-back years he had a close association with whales, whalers, and Maoris. In the days of my youth there were enough yarns spun of his prowess to fill a book, but with the death of every "Old Identity" of Otago, many stories of Johnny Jones pass away for ever. In his younger days he was active, powerful, and a clever wrestler in the West Country styles, proud of his strength and skill. On a day when the red blood in his arteries stimulated him to special activity, Johnny Jones thought that he would like to take a fall out of a young, upstanding, well-built Scottish ploughman, named McLay; he thereupon invited him to a wrestling bout and told him that, if he won, he could choose one of Jones's prime dairy cows for his own. In those days milch cows had a very high value, so the stake was one worth striving for, and it appealed to one of the Scot's outstanding characteristics. There were no spectators, so in good faith of a fair match the two contestants shook hands and got to grips; the tussle was a long and strenuous one; Johnny Jones had the advantage in skill, but this was counteracted in McLay's favour by youth, weight, and strength. Jones was contesting for sport or pride, McLay for a cow; in the end, weight, strength, and the cow prevailed and Johnny Jones was lifted up in the air and thrown fairly on his back. He arose confessedly a defeated man, they shook hands, and he fulfilled his word by giving to McLay his very best cow.

CHAPTER XVIII

ACCLIMATIZATION, PROTECTION, POACHERS AND POACHING

ACCLIMATIZATION

AN imperial note in acclimatization was sounded on the 7th August, 1863, when the Duke of Newcastle addressed a letter from Downing Street, London to Governor Sir George Grey, New Zealand, covering a circular letter containing inquiries with regard to the interchange of animals, birds and fishes, insects and vegetables, for the purpose of acclimatization as between the United Kingdom, India, Australia, Canada, the Cape and other important Dependencies in which it was stated that "unlimited scope is afforded for any variety of experiment."

Had the broad policy which was outlined in this letter been pursued to its legitimate conclusion at that time, many interesting specimens of fauna would, in all probability, have been preserved from extinction; useful animals would to-day be more numerous; science would have been enriched and the world advantaged.

Following the receipt of this letter, circulars were issued throughout New Zealand, and in 1863 the following notice appeared in the *New Zealand Gazette*.

"*Question* :—Do you know any quadruped bird, fish, insect, tree or plant, existing elsewhere, the

introduction of which to the country in which you reside would be likely to be beneficial; one of the objects of the Acclimatization Society being to reciprocate the benefits which it receives from other countries ? ”

Some interesting *data* were obtained, and then—silence.

In 1867 the Legislators of New Zealand introduced and passed legislation for the protection of imported and native game.

Although the work of obtaining game animals and introducing them into New Zealand was congenial to my inclination and of great interest to me, it had its drawbacks, and much local prejudice and opposition had to be overcome, both political and private. One newspaper went so far as to seriously suggest that I should be put into gaol for bringing “wild beasts” into the country. The pendulum swung the other way, however, when the late Richard Seddon, the Premier, said: “One of these days a monument will be erected for your activities in this direction.” I do not want a monument—not yet !

Satisfaction in the success of my operations fully discounted the disabilities and adverse criticism, and I felt fully recompensed by the fact that I was, in a measure, remedying an oversight of Nature where such a remedy was advisable.

My old friend, the late Sir James Hector, the discoverer of the Kicking Horse Pass, Rocky Mountains, a broad-minded and far-seeing Scotsman, always favoured the importation of game into New Zealand, and about forty years ago he publicly urged the procurement of the Rocky Mountain sheep and goat. His proposals were, however, not carried into effect.

The Hon. Sir James Carroll, as representative of the Maori race, strongly favoured the introduction of game animals to his native land.

The Right Hon. Sir Joseph Ward, Bart., who was Premier and Minister in Charge of the Tourist Department for many years, was always ready to consider proposals for the introduction of game animals, provided he was satisfied of their suitability, and he invariably stipulated that they should be liberated in localities where they would not be likely to become a nuisance to the settlers. He authorized the introduction of moose, wapiti, chamois, tahr, axis deer, and bharal.

That red deer have in some districts become excessively numerous is due to the conservative action of the Acclimatization Societies concerned. For over half a century the three main herds had absolute protection for hinds. Stalkers were limited to shooting only a few stags each and restricted to those carrying not less than a specified number of tines. When, twenty-five years ago, the development of herds was desired, there was reason for strict protection, but justification for such limitation and restriction has for a long time ceased to exist. Action that was intended to provide sport for New Zealanders and attraction for sportsmen of other lands has, by its continuance, created a condition of superfluity and in some districts caused a nuisance. However, those farmers who are bothered by deer have the remedy in their own hands, as they have the legal right to kill them *on their own lands at any time*, and the average farmer does not desire more.

The Chief Forester of New Zealand, who, by the way, comes from Canada, where the Government



Photograph by G. and R. Lavis.]

THE RIGHT HON. SIR JOSEPH G. WARD, BT., P.C., LL.D., K.C.M.G.

[To face p. 282.



warmly encourages the increase of deer in the forests and affords them strict protection, complains in his latest report to the Government of the destruction of forest trees by deer in New Zealand, and a recent estimate of the wild deer is given at 300,000. In my opinion, this is an excessive estimate. The Government appears, however, to be very seriously impressed by the representations of the Department of Forestry, as when Sir Francis H. Dillon Bell, Minister for Internal Affairs, who administers the Acts relative to game animals, visited London in 1921 he said to me :

“ We are going to destroy all ‘ your ’ deer. They have become a great nuisance. We are trying to grow plants and ‘ your ’ deer eat them. I don’t believe in them myself.”

I asked him how he proposed to destroy them, and he answered :

“ We are going to ‘ round them up ’ with dogs and then shoot them.”

I ventured to express the opinion that he had a big job in hand and asked him whether it was intended to apply the process to those deer in the dense forests of the West Coast. Sir Francis replied :

“ We may leave those alone.”

It is to be hoped, however, that Sir Francis Bell will regard the game animals of New Zealand from a wide and general view-point, uninfluenced by narrow or selfish representations.

To endeavour to exterminate the deer, as is suggested, would be a calamity of more than local importance. It is, of course, known that deer browse on shrubs and plants, but their destructiveness to forests is infinitesimal in comparison with that caused by fire

which does more damage in a few hours than large herds of deer would do in a century.

It might be pointedly asked, how many travellers visit New Zealand to view shrubs and plants as against those who are attracted there by sport? In any case there are more trees, shrubs, and plants than a man could look at in a hundred years.

New Zealand is about twelve thousand miles from the United Kingdom; 3,385 miles by railway from Washington, D.C., to San Francisco, and 5,934 miles from San Francisco to Auckland, total 9,319 miles. The successful transportation that has been effected of various kinds of wild ruminating animals over such great distances, under varying conditions of temperature and through violent ocean storms, proves conclusively that with care and the exercise of foresight in making transport arrangements, wild animals may be safely conveyed for practically any distance.

The prime essentials are, I think:

1. Healthy animals; young if possible.
2. Cleanliness and dryness. These conditions are of vital importance.
3. Regular feeding, with suitable food; mostly of a dry nature.
4. Good, clean water, without any trace of grease.
5. The animals to be fed and watered at regular periods, early in the morning and in the evening, with a "snack" at midday.
6. As far as possible the animals should be fed, watered, and the crates cleaned by the same man.
7. Fresh air, but no draught.
8. Ample room in crates for them to lie down in comfort.
9. For several weeks prior to commencing their

journey they should be fed on exactly the same kind of food as would be given to them *en route*.

10. On reaching their destination the change to new kinds of food should be gradual, and any green food should be given very sparingly.

The inner sides of crates should be closely boarded with smooth boards: there should be neither projections nor sharp edges. The ventilation openings should be covered on the outside with wire netting of small mesh so as to prevent fool passengers giving the animals tobacco, boiled potatoes, and other harmful matter.

Apart from injury to the animals caused by storms at sea, the greatest risk is from gastro-enteritis resulting from green food, chill, or impure water. Damp bedding and dirt are fertile sources of disease. No bedding is preferable to damp muck. A reliable servant requires no oversight, but "casual" labour engaged to care for animals on the voyage should be under the orders and supervision of the captain of the ship.

When conveying animals by railway and steamer it is better to slightly underfeed than overfeed them. They should clean up their feed troughs to the last scrap. Ten to fifteen pounds of hay per feed for each red deer is sufficient; this should be supplemented by two pints of Indian corn (maize) once a day. A few peelings of raw apples or potatoes are enjoyed by animals when travelling. The custodian will quickly ascertain which of his charges are coarse or dainty feeders and should regulate his supplies to them accordingly.

In the tropics clean, cold, fresh water may be thrown over the animals occasionally, but this should be done gradually until they get used to the douche; otherwise they may become frightened and injure

themselves. On no account should salt water be given to, or thrown over, deer, antelope, or goats.

Most of the ungulates are fond of salt, members of the Cervidæ and Bovidæ families especially so. Young deer quickly become friendly with man if given an occasional lick of rock-salt held in his hand. Curiously enough, the Red Indians did not appear to have made use of salt until after it was introduced to them by white men. It is said that before they became accustomed to its use with their food it caused them to have chills and colds. The Maori, too, in pre-pakeha days, did not partake of salt, and the old *rangitiras* and *tohungas* aver that eating salted foods caused many illnesses which were previously unknown to them.

Rock-salt should not be left continuously in the food boxes of deer.

When about to load game animals into railway trucks, or to place them on board steamer, it is advisable to keep them hungry beforehand, and, in the case of railway travelling, feed them just as the train is about to start on its journey. When placing them on board ship give them a snack of their favourite food but withhold a generous meal until the vessel is putting to sea, then give them dry food. This will settle them down, suppress nervousness, and tend to prevent sea-sickness. Animals, when travelling, are nervous at the outset ; strangers should, therefore, be kept away from their pens.

The climatic seasons of New Zealand are exactly opposite to those of Great Britain. The longest day in the latter country is the shortest day at the antipodes, and Christmas Day is in midsummer. This change of season naturally affects the condition of

deer when they are transported from the one country to the other. In Great Britain red deer commence to rut about the 20th September, in New Zealand about the 20th March ; it therefore follows that the time for shedding of antlers and pelage, the rut and period of calving, must in time change to coincide with the seasons of the year which bring those processes into operation.

It is known that some young stags which reached New Zealand after the English rut and before the local rutting period, "roared" in March-April, coincident with the New Zealand roaring season and six months distant from the English season in which they took part.

On the 4th October, 1907, two stags and four hinds, all four years old, were shipped from Warnham Court Park for New Zealand. Two of the hinds died on the voyage, the other deer reached New Zealand in mid-November and were placed in the Paraparaumu Game Farm.

In April following the imported stags came out of the bush with clean antlers and began roaring on the 2nd May, about two or three weeks after the New Zealand rut had finished and about six weeks after it began. This shows that they came "in season" and that their antlers had been shed and reproduced twice in the one year. Their first antlers grown in New Zealand were, however, not fully developed and smaller than those they had shed. In 1909 they roared in the New Zealand season, and it is stated by the keeper of the Game Farm that their antlers were normal. The two hinds dropped calves in April, 1908, seven months after the September rut in England. In 1909 they again both calved in February, two

months earlier than the previous year and about two months later than the normal period of New Zealand. In 1910 they had adapted themselves to local conditions.

On the 21st November, 1913, four hinds reached Otago from Warnham Court Park and were placed in a park at Waiwera. They calved in June (mid-winter), English normal time, showing that they had rutted normally before leaving Warnham Park. Three of the calves survived. William Telford, of Otago, to whom I am indebted for this information, does not state when they next rutted or calved.

The following extract is taken from his letter :

“The Warnham Park stag, which was imported into New Zealand, shed his antlers three weeks later than the New Zealand stag at Waiwera. New Zealand stags shed their antlers about the 10th September, the Warnham Park stag about the end of September, three months after his arrival at Waiwera. New Zealand stags clean their antlers on the 23rd February, almost to a day, but the English stag cleaned his antlers two weeks earlier.”

These observations were, I gather, made at the Waiwera Acclimatization Grounds where a few red deer only were in confinement.

This information, considered in relation to the two young stags, which were imported from Warnham Court Park in 1907, and contained in the Paraparaumu Game Farm, appears to demonstrate that stags which had shed their antlers in England in April or May, and had been transferred to New Zealand in the meantime, again shed them in October or November. Mr. Lucas has informed me that the hinds which came from New Zealand to Warnham Park in 1911 took two

years to conform to the English periods of rut and renewal of pelage.

Further close observation, and careful records, in this direction would be interesting, as showing the changes of important functions in relation to change of latitude.

The game animals, birds, and introduced sporting fishes are under control of local Acclimatization Societies, excepting in one district which is directly controlled by a Government Department.

Annual membership of an Acclimatization Society is acquired by adults who purchase either a stalking, shooting, or fishing licence, or subscribe to the funds of the Society. The Society may confer Life Membership on persons who have rendered special services or subscribed to it a sum of not less than £5.

The Council comprises fourteen members, more or less, and is elected annually at a meeting of members. The Council elects its Chairman and Hon. Treasurer, and in some of the Societies salaries are paid to the secretaries. Sub-committees are set up to control the breeding of game animals, birds, and sporting fishes. Rangers, honorary or paid, are appointed by the Government under the Animals Protection Act.

Each licence holder becomes *ipso facto* a ranger.

Annual conferences of delegates from the various Acclimatization Societies are held to consider questions of general policy.

The Societies make recommendations to the Government in regard to dates of seasons for stalking, shooting, and fishing, cost of licences, restrictions, etc.; if these are approved they are gazetted and become Law.

The Societies derive revenue from the sale of

licences, ova, and fry, also from subscriptions, and in some cases the Government assist by subsidies.

Although I am a Life Member of one of the more important Acclimatization Societies, I am strongly of opinion that a change of general administration of the wild game animals and birds and sporting fishes is necessary, and that an asset of this value and importance to the Dominion should be under the direct control of the Government, as representatives of the actual owners—the people.

It must be admitted that good and great work has been done by some of the Acclimatization Societies, but it occurs to me that the day has come when the principle of unified control is essential and that localism should be replaced by a central authority exercising absolute jurisdiction over the whole acclimatization work of New Zealand.

The past and present practice of the Government in liberating game animals and birds on privately-owned property is bad in principle, as it affords the landowners pre-emptive rights in them, which they can exercise to the advantage of themselves and friends and to the disadvantage of the actual owner—the State.

In New Zealand owners have recognized vested right in the wild game animals on their lands and may kill as many, or all, of the animals or birds as and when they desire to do so.

No person has the right to violate the law pertaining to trespass in the pursuit of game; therefore the law affords the owners of land absolute protection against the owners of the animals—the people.

The licences to shoot game issued to sportsmen by the various Acclimatization Societies do not cover

any right to enter privately-owned, or leased, lands for that purpose.

It is a question whether public property in the form of game should be placed in such an invidious position.

The right of determination as to the kind of animal, bird, or fish introduced into New Zealand, and the locality where such animal or bird is to be released, and the waters into which imported fishes are to be placed, should, I think, rest entirely with the Government. The individual—who has no responsibility to the people—should not have power to liberate animals or birds which might become a nuisance to the people.

One has only to refer to the introduction and liberation of rabbits, sparrows, ferrets, stoats, weasels, and little owls and the release of deer in farming districts to point the moral.

The Government is in control of the Fiordland National Park—one of the finest reservations in the world, suitable in every way for ruminating game animals—also of the Tongariro National Park, Little Barrier Island, Resolution Island, reserves at Lake Waikaremoana and Mount Cook, a portion of Kapiti Island and all of the mountain forest reserves. They have thus ample selection of country into which to introduce, or develop, game without utilizing the offers of use of land by private individuals.

In some parts of Russia, before the establishment of the Soviet, the rights of the people in game were recognized, and hunters were required to give the flesh of wild animals, killed by them, to the people of near-by villages, being permitted themselves to retain only the horns or antlers.

In New Zealand the Government Department of Agriculture possesses the machinery necessary for administering the game animal question. To cope with wider conditions, it merely required an extension of authority. The Marine Department now administers the Sea Fisheries, and it could doubtless undertake the administration of the Law as regards salmon and trout as it now does of lobsters and crabs.

PROTECTION

“And I will that every man be entitled to his hunting, in wood and field, on his own possession; and let everyone forego my hunting: take notice where I will have it untrespased on, under penalty of the full wite. The laws of King Cnute.”

Governments are admittedly likely to display a certain measure of gentleness in taking legal action to protect game against the individual, and that might, in some quarters, be regarded as a probable weakness in event of the Government assuming control of game animals, birds, and sporting fishes.

America is generally recognized as one of the most democratic of countries, and yet its Game Laws are strong, stringent, and sensible, and the insistent demand for the proper protection and preservation of its game is made chiefly by the everyday man, who has to work for his living, including farmers and country settlers, and not by dollar millionaires.

Sport in New Zealand belongs mostly to “the people,” and in no other country is it possible to obtain genuine sport more easily and cheaply.

The majority of its deer-stalkers and game-bird

shooters are working men, and it surely devolves on them to rigidly guard against the wanton destruction of an asset so valuable to their country and therefore to themselves.

I include extracts from the Game Laws of the United States of America, some of which may be suggestive of required action in New Zealand :

Massachusetts.—The Lord's Day shall be close season ; whoever hunts or destroys birds, wild animals or game of any kind on the Lord's Day shall be liable to a penalty imposed.

Columbia.—There shall be no shooting or having in possession in the open air implements for shooting on the first day of the week, called Sunday.

No person shall kill or shoot at any wild duck, wild goose, brant or wild bird in the night time.

Louisiana.—No idler, vagrant, pot-hunter or professional hunter shall kill deer in this State.

Nebraska.—No person shall shoot on or from a public highway at any game, song, insectivorous or other bird or fish.

No game shall be held in possession by any person for more than five days after the close of the season.

No game shall be pursued, taken or killed in the night, nor with a steel or hard-pointed bullet.

South Dakota.—It shall be unlawful for any non-resident to pursue, hunt or kill any of the game animals named in this Act except when accompanied by a qualified guide.

New Hampshire.—No person, Corporation, or common carrier shall transport within this State any deer or parts thereof, except heads for mounting, unless open to view, tagged and plainly labelled with the name of the actual owner, and accompanied by him.

Montana.—Song birds, both native and imported, are absolutely protected.

Every person who shall sell or offer for sale any geese, wild ducks, brant or swan, or *any part thereof* is punishable by a fine or by imprisonment in the county jail.

When it is shown that any violation of the provisions of this Act was for the purpose of preventing great suffering by hunger, of any person or persons, the provisions of this Act shall not apply.

No person shall engage in the business of guiding without first having procured from the State a Guide's Licence.

Any person engaged in conducting any Taxidermist's business for the purpose of mounting or preparing any of the dead bodies of any birds or animals or any part thereof, must first obtain a Taxidermist's Licence, Cost £5. He is required to render returns of work received and disposed of.

Any non-resident who does not pay taxes has to make application for Licence to hunt or kill game, stating his name, age, place of residence, P.O. address, colour of his hair and eyes, and pay Licence Fee of 25 dollars=£5.

Oregon.—It shall be unlawful at any time to hunt any deer, antelope, or moose with dog or dogs.

Alaska.—It shall be unlawful for any person at any time to kill any females or yearlings of moose, Caribou deer or sheep (mountain).

Alabama.—All wild birds are protected except the English, or European, house-sparrow, etc.

Tennessee.—It shall be unlawful to kill deer for profit.

WORLD-WIDE PROTECTION

A serious effort is now being made in certain quarters in an endeavour to influence public opinion in the direction of conserving wild game animals and of giving absolute protection to rare forms of fauna in whichever country they may occur. The authorities of all game-producing countries throughout the world are being approached in an attempt to enlist their active co-operation in trying to establish such conservation and protection. Universal movements of this nature are, from their vastness, slow and difficult of attainment, but, for the sake of the beauty and benefit of the world, it is to be hoped that those who are so assiduously working in this direction will ultimately achieve a full measure of success.

The wild animals, birds, flora and botanical rareties of the universe are being rapidly destroyed by the advance of civilization, and its correlative vice of selfishness. One wonders whether human law can stay this avalanche of destructiveness.

Nature neglected New Zealand in providing game animals; man has remedied the omission. Nature will do her part in supporting them; let man do his part in protecting them.

Protection by Sentiment.—In many varieties of animals there are occasional departures from the normal as regards colour, and the deer family sometimes produce white offspring. As a rule, these inspire a kindly sentimental feeling in the minds of men and women which, in turn, causes a desire for protection of these animals. From this inspiration has probably sprung the very general superstition that it is unlucky to kill a white deer or chamois.

Shoemaker tells the story of Shaney John, a Red Indian, who killed a white Virginia buck with bow and arrow. When the arrow entered the loin of the buck he walked up to the Indian and fell dead at his feet. Shaney John left the carcass while he went to a near-by cabin to fetch his friends; when they came to the deer "it had turned coal black and its horns crumbled in the hunter's grasp." The party agreed that the white buck was a "ghspook" or ghost.

"Amongst the old hunters of Pennsylvania the white deer is generally supposed to contain the soul of some person who has committed the crime of incest."

Shoemaker also tells of Philip Tomb, a mighty hunter, who said that he once saw a "spook" stag which he shot at thirty times but could not hit, although it stood on the bank of Tiadaghton, a few feet from his canoe. (A "spook" is surely the natural corollary of a "tomb.")

I once fired five shots from a self-cocking revolver with a heavy pull at a white wild pigeon, which was sitting on a tree and not more than ten feet from me, and missed him easily every time. The same day, with the same revolver, I killed a black shag by the first shot at a distance of eighty yards—surely convincing evidence that the pigeon was a "spook."

When returning from stalking on the Maungaraki ranges one very warm afternoon, the late John Strang and I met a party of Maoris, men and women, mostly prime fats, accompanied by a string of bare-footed, half-naked, chattering children. We heard them long before seeing them. The chief man, running fully to twenty stone, was carrying an old muzzle-loading gun, and as he slowly, and with much effort, climbed the hills, he grunted like an overfed porker,

Strang asked him : " What you make the shoot ? " He answered : " Te 'tag, you see him ? "

This reminds me of the late overlord chief of that district, the fine old man Tamahau Mahupuku, who owned large areas of land. He was very strong in protecting deer, and definitely threatened members of his tribe with an introduction to the *rewera* (devil) if they were caught poaching. The Maori, however, is not in general fond of the flesh of deer. One whom I knew, an upstanding, well-built man, who was a gourmet on grubs, enjoyed dry shark, thoroughly relished the oil-oozing *titi* (mutton-bird), and could put away heaps of overkept corn, was invited to a somewhat important social dinner in the Wairarapa, at which well-hung venison formed the *pièce de résistance*. The Maori man had for several days restrained his eating propensities to very short limitations, and lived in pleasurable anticipation of enjoying this much-vaunted *pakeha* dish of deer flesh. Sometimes, however, our highest hopes prove to be " Dead Sea Fruit." Instead of appreciating the pronounced flavour of the fat venison, as those who know the Maori and his gastro-nomic predilections might expect, his system revolted at the first taste, and he was excused from table. After that, deer required no special protection as far as he was concerned.

On the " Great Western Prairie " of America the unsophisticated residents have quiet ways of evading laws in relation to game. In Montana I had midday dinner in a prairie liquor saloon, where the principal patrons were of the true cowboy type, Stetson, chaps and gun all complete. There was wild duck on the menu, but it was illegal to *sell* such duck in Montana State ; therefore no charge could be made for it.

That, however, was a very small hurdle "out West," and one easily "gotten over." The duck was supplied, supported by cabbage and potatoes, and on each plate containing it there was a printed card bearing the legend, "This duck is presented to you with the compliments of the landlord." As the "check" came to a dollar and a half, I concluded that vegetables were expensive in those parts.

POACHERS AND POACHING

Where there are game animals there are usually poachers. The deer parks of England and the mountains of Scotland have provided many stirring tales of bloody conflicts between keepers and poachers, and fights to a finish were of frequent occurrence on the high chamois lands of Europe between Jaegers and other mountaineers who trespassed in pursuit of buck or doe.

Instances of poaching are recorded from earliest times, and I quote some in the quaint spelling of a few centuries ago.

Fifteenth century :

"Pcus de Shottull [park of Shottull]. On the Sunday next after Saynt Barnaby Day a doo was kylled in the blak broke and carried out of the pale [fence] and stollen, by whom it can not as yet be pved."

From a record of 1515.

The parson taken in *flagrant delicto* :

"Item. On holy rood evyn I found in the parke Sr Iohan bowse parysch pryst of tanygton with hys bow bent and an arrow in yt betyng at the herd."

A canine poacher :

"Item. A dog came in and killed a do."

Bucksheesh :

“Item. Thomas Cok for his dowtyris marryage 1 buk.”

Young Nick as a poacher :

“Nicholas Kneveton and Roger Vernon cam into Morley Pke and hunted by their own authorite and kyllled no thyng. Hm the said Nicholas Kneveton brake the pale another tyme as he went to Butterley.”

Old Nick as a poacher.

In June, 1545, a great storm caused much damage to the deer park of Langley in Derbyshire :

“Syr Wyllam Basetts place rente and pully’d downe and the woods that growethe aboute hys place and in hys parke he [the devil, as we do suppose] pulled downe his pale and dryve out hys deere.”

Hunting with permission.

Horsham, where Warnham Court is situated, contained deer parks in older times :

“My lord Wyllsby cam from London and he schewyd me that my lordys grace was content thatt he sholde kyll doys her and for as many doys as he kylld heere he schulde put quick doys [live does] in hersham [Horsham] park for them as wyche he had X doys.”

Coming to more recent days, we find young Will Shakespeare credited with having enjoyed the privilege of hunting deer in Fulbrook Park, Warwickshire, without having obtained an invitation or formal permission from its owner.

Shakespeare, however, was not the first nor the only man of learning who experienced the distinction

of getting into difficulties in connection with deer hunting, as I find it recorded that "the scollars" of Oxford much resorted to Radley to hunt, and in consequence an Act of Parliament was passed in the reign of Henry V. (1421) which enacted that

"scollars of Oxford hunting disorderly in parks in the counties of Oxford, Berks, Bucks shall be banished the University."

Whether or not young Shakespeare ever took illicit toll of deer in the neighbourhood of Stratford-on-Avon must remain a debatable question. He was of an adventurous spirit, and those near-by fat stags or bucks, on lands whose owner was banished from England, doubtless proved provocative enough to tempt so bold a youth to overstep the bounds of discretion and put into execution a sporting desire born of mischievousness. If, however, Shakespeare did poach deer, then he greatly honoured that old-time illegal practice.

WILD DEER INFLUENCED BY DIRECTION OF WIND

I have often conjectured whether the trend of red deer herds was influenced by wind. As is well known, deer, when alarmed by man, usually make off against the wind, trusting to their acute sense of smell to warn them of the proximity of the enemy, but I have not heard or seen any theory advanced that deer, when quite free to roam whither they list, as they are on the mountains of New Zealand, spread in definite directions against the prevailing winds; but experience there seems to warrant such a conclusion, and that the direction of winds has more influence on them in

this respect than have the conditions of food, shelter, and quiet.

When deer were first released on the Ruahine ranges they spread almost exclusively to the west and south, and this course seemed to be somewhat remarkable in view of the fact that the country to the north was equally good in essentials.

In the Wairarapa they worked steadily northward and westward, notwithstanding that there was excellent country for them to the south and far more settlement in the north than in the south. Of late years they have extended in a south-west direction, but not so much due south as suitable conditions would seem to warrant.

In the Nelson district the trend of the deer was decidedly to the south from the early days of their liberation.

Major Robert Wilson has informed me that Otago deer have spread north-east and south-west, but more definitely in the latter direction of late years.

The meteorological table on page 302, taken from the New Zealand Year Book, and which shows the direction of prevailing winds, will prove of interest in this relation.

As will be observed, the winds in Canterbury blow from the north-east during eleven months, and from the south-west during ten months in the year. If, therefore, there is any solid foundation for my assumption, the herds of deer in the Rakaia and Poulter River districts should extend both north-east and south-west, and they would in that case ultimately fuse with each other and with the Nelson and Otago herds respectively.

Many of the best men of New Zealand have been

Months.	Hawkes Bay (lat. 39° 32' S.; long. 176° 53' E.).				Wellington (lat. 41° 16' S.; long. 174° 46' E.).				Nelson (lat. 41° 16' 17" S.; long. 173° 18' 46" E.).				Canterbury (lat. 43° 32' 16" S.; long. 172° 38' 39" E.).				Otago (lat. 43° 52' S.; long. 170° 31' E.).			
	Rainfall.				Rainfall.				Rainfall.				Rainfall.				Rainfall.			
	Wet Days.	Fall.	Prevailing Winds.		Wet Days.	Fall.	Prevailing Winds.		Wet Days.	Fall.	Prevailing Winds.		Wet Days.	Fall.	Prevailing Winds.		Wet Days.	Fall.	Prevailing Winds.	
January	No. 3	Inches. 0.25	W. S.	No. 11	Inches. 2.60	N.	N.	No. 7	Inches. 1.03	N.	N.	No. 8	Inches. 2.06	NE.	NE.	No. 16	Inches. 3.68	SW, NE.		
February	3	2.10	W. NW.	11	1.93	NW, S.	N.	8	2.88	N.	N.	6	1.38	SW, NE.	SW.	9	3.20	SW.		
March	12	5.42	S. NW, SW.	16	2.32	NW, S.	SW, SE.	7	1.71	SW, SE.	SW, S.	12	1.55	NE, SW.	SW, NE.	8	1.79	SW, NE.		
April	7	3.14	NW, SW.	21	2.56	N, NW.	SW, S.	17	4.86	SW, S.	S.	14	2.54	NE, SW.	SW, NE.	14	3.46	SW, NE.		
May	11	7.40	SW.	20	7.97	S, N.	S.	9	3.43	S.	S.	14	4.31	SW.	N, SW.	12	2.63	N, SW.		
June	2	0.12	SW.	17	3.84	N, S.	S, SE.	8	2.94	S, SE.	S.	14	1.95	NE, SW.	SW.	15	2.78	SW.		
July	3	0.24	W, SW.	15	2.49	N, NW, N.	S.	7	3.13	S.	S.	7	0.52	NE, SW.	SW, N.	15	2.13	SW, N.		
August	8	1.05	SW.	8	1.16	NW, N.	S.	7	0.55	S.	S.	7	0.54	NE, SW.	N, W.	8	0.74	N, W.		
September	2	0.32	S.	7	1.52	N, S.	NW, SW.	5	0.36	NW, SW.	SW.	5	0.63	NE, SW.	SW.	17	1.69	SW.		
October	2	0.21	S.	8	1.54	N, S.	SW.	6	0.56	SW.	SW.	8	1.37	NE, NW.	SW.	9	1.81	SW.		
November	6	1.23	W.	11	1.98	N, NW.	SW.	10	2.71	SW.	SW.	12	1.98	NE, SW.	SW.	17	3.48	SW.		
December	4	0.65	NW, W.	11	1.99	N, NW.	SW.	10	1.85	SW.	SW.	13	2.12	SW, NE.	SW, NE.	15	3.92	SW.		

personally interested in and closely identified with the work of acclimatization, development, and protection of animals, birds, and fishes. Where so many are concerned it would be invidious to mention individual names. When those men, other than New Zealanders, who helped to introduce big game animals into New Zealand get their due meed of recognition, the names of His Royal Highness Prince Albert, the Hon. H. W. Petre, His Grace the Duke of Bedford, the late Theodore Roosevelt, Mr. St. George Littledale, Rear-Admiral Ritter von Höhnel, and Mr. George Chirnside will stand deservedly high.

APPENDIX

PRIOR to the establishment of its Tourist Department the Government were directly concerned only with the importation of moose from Canada in the year 1900. Other game animals were imported by various Acclimatization Societies or private persons. Since 1900 the Tourist Department has acquired and liberated the following big game animals :—

Year.	Number and description of game.	From.	Where liberated.
1901	4 red deer	Wairarapa herds	Lake Waikaremoana
"	3 " "	" "	Stewart Island
1903	7 " "	Presented by Miss Audrey Chirnside, Werribee Park, Victoria	Mount Tuhua, West Coast, South Island
"	8 " "	Ditto	Lake Wakatipu
1904	6 tahr (2 m. 4 f.)	Presented by the Duke of Bedford, Woburn, England	Mount Cook
1905	6 Japanese deer (3 m. 3 f.)	Ditto	Kaimanawa Ranges near Taupo
"	9 wapiti	Exchanged by President Roosevelt, United States of America	Fiordland National Park
"	9 wapiti	Purchased in the United States of America by T. E. Donne, for the N.Z. Government	Fiordland National Park (2 killed on voyage)
"	22 Virginian deer	Ditto	9 Stewart Island ; 1 Nelson (3 died on voyage)
"	" "	Ditto	9 head of Lake Wakatipu

Year.	Number and description of game.	From.	Where liberated.
1905	5 mule deer	Ditto	Tarawera, Hawkes Bay
1906	8 red deer	Presented by Miss Audrey Chirnside, Werribee Park, Victoria	Lake Kanieri, West Coast
"	4 " "	Ditto	Mount Tuhua, West Coast
"	5 " " (3 s. 2 h.)	Wairarapa herds	Tongariro National Park
1907	9 " "	Presented by G. W. Chirnside, Esq., Werribee Park, Victoria	Lake Rototi, Rotorua
"	8 chamois	Presented by H.I.M. Emperor of Austria	Mount Wakefield, Mount Cook district
"	2 sambar	Purchased in Noumea, by Govment Tourist Dept.	Galatea, Rotorua district
"	6 sambar	Purchased in Noumea by H. R. Benn, Esq., in arrangement with Tourist Dept.	Galatea, Rotorua district
"	6 axis	Purchased in England by Govt. Tourist Dept.	5 liberated at Mount Tongariro; 1, which was blind, presented to Wellington Zoo
1908	4 red deer	Presented by C. J. Lucas, Esq., Warnham Court, England	Paraparaumu Deer Park
1909	3 " "	Paraparaumu Deer Park	Dusky Sound
"	6 axis deer	Purchased in England by Tourist Dept.	5 released Dusky Sound. 1 died on voyage
"	3 bharal sheep	Ditto	Mount Cook district, Southern Alps
1910	10 moose	Purchased in Canada by Tourist Dept.	Dusky Sound
1911	3 tahr (1 m. 2 f.)	Purchased by Tourist Dept.	Waihou, West Coast
1914	2 chamois	Presented by H.I.M. Emperor of Austria	Mount Wakefield, Mount Cook district
"	8 deer calves	Allotted from Paraparaumu Game Farm	Different parts Rotorua Acclimatization District
1916	11 red deer	Paraparaumu Game Farm	Within or near Rotorua Acclimatization District
"	4 deer	Presented by Mr Chirnside from herd at Werribee Park, Victoria	Rotorua

Year.	Number and description of game.	From.	Where liberated.
1917	4 deer	Presented by Mr. Chirnside, of Victoria	Mount Edgecumbe
"	21 deer	Paraparaumu Game Farm	Mount Edgecumbe
1918	2 stags and 2 hinds	Paraparaumu Game Farm	Waikaremoana
"	4 calves	Mr. Chirnside, Werribee Park, Victoria	Whirinaki Valley
"	1 stag and 1 hind	Paraparaumu Game Farm	Mahia
1919	2 stags and 2 hinds	Mr. Chirnside, Werribee Park, Victoria	Waikaremoana
"	5 stags and 3 hinds	Paraparaumu Game Farm	Mahia Peninsula, 1 stag and 1 hind
"	3 stags	Wellington Zoo	Whirinaki Valley, 2 stags and 2 hinds (2 from Paraparaumu Stock and 2 from Werribee stock)
"	4 Himalayan tahr	Wellington Zoo	Taumarunui, 1 stag
"	3 sambar deer	Himitangi	Rotoiti, 2 stags
"	4 opossums	Presented by Wellington Zoo	Galatea herd from Zoo, 2 stags
"	1 fallow buck	From Wellington Zoo	Mount Sealey
"	7 red deer	Paraparaumu Game Farm	Rerewhakaitu herd (Ruawahia) and Taneatua herd Whakatane County)
			Wai-iti (Ruatahuna)
			—
			1 at Mahia Peninsula
			2 at Wellington Zoo
			1 Rotoiti herd
			1 Okataina Reserve
			1 Galatea herd
			1 —
1920	1 red deer hind	Presented by Mr. Shrimpton, of Hastings	—
"	1 fallow buck	Presented by Wellington Zoo	—
"	8 sambar deer	Captured in Himitangi district	—
1921	5 deer calves	Paraparaumu Game Farm	Rotorua district
			Presented to Auckland Society



NEW ZEALAND GOVERNMENT STEAM YACHT "HINEMOA."

(Used for distributing game animals.)



The mixing of red deer that has taken place has resulted in all of the New Zealand herds having a common relationship, as this table indicates :

Herd.	Parent deer from.	Original stock from.
Lake Rotorua Mahia Peninsula	Werribee Park, Aus. Nelson	Windsor Park Thorndon Park—Windsor cross
Ruahine Ranges	Wairarapa and Otago (trace of Windsor blood)	Windsor Park and For- farshire
Lake Waikaremoana Tongariro Nat. Park Eketahuna	Wairarapa "	Windsor Park " "
Wairarapa	" Windsor Park (German cross)	" "
Wainuiomata	Wairarapa Wairarapa Warnham Court	" " " " Have trace of Windsor and Scottish blood
Paraparaumu	Otago (trace Windsor blood) Duncombe Park	Forfarshire Breeding not known
Nelson	Thorndon Park, Bucks, and Warnham Court	Windsor Cross and trace of Scottish blood
Westland	Wairarapa and Werribee Park, Aus.	Windsor Park
Rakaia	{Stoke Park Nelson	Windsor cross Thorndon Park (Windsor cross)
Poulter River ..	Warnham Court	Have trace of Windsor and Scottish blood
Otago	Forfarshire, Scotland	Forfarshire : Crossed with deer from Melbourne Hunt Club, Windsor blood ; Werribee Park deer, Windsor blood ; Wairarapa, Windsor blood ; Knowsley Park, Irish and Windsor blood ; Raby Park deer
"West Coast" ..	Paraparaumu and Wai- rarapa	Windsor Park
Lake Wakatipu ..	Wairarapa	" "
Fiordland Nat. Park	Paraparaumu	" "
Lake Manapouri ..	Wairarapa and Werribee Park, Aus.	" "
Stewart Island ..	" " "	" "

The Warnham Park deer are truly "Imperial," as their blood is mixed English, Scottish, Welsh, Irish, and New Zealand.

My own collection of red deer heads formed part of the Forestry Exhibit of New Zealand at the Louisiana Purchase Exposition, 1905-6, which was, in competition against the World, awarded a Gold Medal (the only prize) for the best, most complete and most attractive installation in the Department of Fish and Game.

In connection with this award I received the following letter from the late Dr. Tarleton H. Bean :

ST. LOUIS, U.S.A.

December 9th, 1904.

MR. T. E. DONNE,

*Commissioner-General for New Zealand,
To the Universal Exposition at St. Louis.*

DEAR SIR,

I feel that it is my duty as well as a pleasure to express to you my sense of obligation to New Zealand for the beautiful and instructive installation of exhibits set up by yourself, as its representative, in the Forestry and Fish and Game Departments of the Universal Exposition at St. Louis in 1904. I also desire to bear testimony to the satisfaction which has arisen from the pleasant associations between New Zealand's Representative and the Chief of the Departments referred to. I find that I am not alone in my estimate of the value of New Zealand's Representation, because the Department Jury has manifested its approval by granting to New Zealand the unique prize for the beauty and completeness of its installation in the Department of Fish and Game. This of itself is a prize which any Country might well covet.

The one great feature of the New Zealand exhibit in fish and game which appeals most strongly to myself, demonstrates the successful work in the introduction of the Red and Fallow deer, the European Trout and

the American Brook and Rainbow Trout. I do not believe that any other Country can show equal results in work of such importance.

I congratulate you most heartily, Mr. Donne, both upon the success of your efforts in behalf of your Country and upon the exceedingly pleasant friendships which you have formed with the officers of the Louisiana Purchase Exposition Company. I wish for you a safe and comfortable journey to New Zealand where, I am sure, your devotion and skill must be fully appreciated.

Yours very respectfully,

(Sgd.) TARLETON H. BEAN,
*Chief, Departments of Forestry and Fish and
Game, Louisiana Purchase Exposition.*

Following is a letter from Dr. Hornaday, the well-known American zoologist, in reference to the quality of New Zealand antlers :

NEW YORK ZOOLOGICAL PARK,
183RD STREET AND SOUTHERN BOULEVARD,
NEW YORK.
15th February, 1905.

MR. T. EDWARD DONNE,
*Waldorf Astoria,
34th Street and Fifth Avenue,
New York City.*

DEAR SIR,

I am very glad indeed to have the photographs of the Red deer shot in New Zealand which you kindly sent me three days ago. They make an astonishing exhibit of the development of the red deer in New Zealand, and raise in my mind several interesting questions. The first is: have not these animals developed more finely in New Zealand than they would

had they been bred and reared in England? Of course that is a question that cannot easily or quickly be answered. I must say, however, that we have never been able to get hold of any red deer which have come up to the standard set by the five gigantic heads shown on one of your prints. We have had red deer from England and also from Germany, and although Mr. Hagenbeck took considerable pains in the selection of the last lot of six from Germany, the animals have not come up to our expectations.

I heartily congratulate you upon the success of your efforts with the red deer, and am sure that all New Zealanders must be well pleased by the results that have been attained. You are to be congratulated upon having had at your disposal such a magnificent domain, in a mild climate, for the acclimatization of desirable Ungulates. I should think you could easily acclimatize the Mouflon, the Barbary Wild Sheep, Axis Deer and Malay Sambar deer, and in time make New Zealand the greatest game country to be found anywhere south of Asia.

Yours very truly,

W. T. HORNADAY,

Director.

Letter from the British Commissioner for the
Vienna Exhibition :

NATURAL HISTORY MUSEUM,

CROMWELL ROAD,

SOUTH KENSINGTON,

LONDON.

SIR,

The Vienna Sports Exhibition having been closed on the 16th October the game trophies and other exhibits have now been returned to this country.

I am sending to your address per Army and Navy

Aux. C. S. the specimens you kindly placed at the disposal of the Committee.

I am desired by the Committee to convey to you the expression of their best thanks for the valuable assistance rendered by you in the formation of the British Section of the Exhibition. The success which attended the efforts of the Committee to bring together a representative collection of trophies illustrating the big game fauna of the British Empire was only made possible by the willing co-operation of the owners, whose kindness in the matter is warmly appreciated by the Committee.

I am, Sir,

Your obedient servant,

(Sgd.) J. H. CUNDALL,

Secretary to the Committee.

T. E. DONNE, Esq.,

13, *Victoria Street,*

London, S.W.1.

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